

EQUIPMENT

of CHEMICAL PROCESS INDUSTRIES

New { PRODUCTS
APPLICATIONS
PROCESSES

War Orders? Caution . .

THIS admonition is perhaps unnecessary for those manufacturers in the process industries whose experience extends back to the world war. They know the business hazards involved in the acceptance of some of the government contracts on the terms upon which they are now being offered.

The major items involved in the discussion are apparently short term amortization on increased capital invested in plant expansion and complete coverage on plant and equipment obsolete at the termination of the contract or contracts.

The opinion seems to prevail in at least some government quarters that the manufacturers should curtail production in their customary lines so that government materials may be produced. This can be done to a limited extent but no manufacturer can so curtail customary products to the point of being unable to satisfy his customer's needs without jeopardizing his entire business future.

Proposals are being made to manufacturers in certain lines, possessing certain necessary equipment and techniques that they manufacture an entirely different product, the fabrication of which requires the same equipment and techniques.

The industrial hazard involved in this can be shown by an illustration taken from the World War.

A firm manufacturing milk cans possessed the necessary presses and had the technique for deep metal drawing. They accepted a contract to produce 75 mm. shells. At the end of the war no more shells were wanted and someone else had the milk can business. An ex-

(Continued on last page)

The Editors' Spotlight

—interesting items selected by The Editors in preparing this issue.

Potentiometer-Pyrometer—Only one balancing operation needed for each reading on scales below 0-400 degrees F. Portable, weighs 5¼ lbs. Accuracy is ½ of 1% total scale deflection. See item EP 2105, page 12.

Fritted Glassware—Chemical stability . . . resistance to mechanical and thermal breakage. Made of Pyrex chemical glass No. 774. For filtration of coarse precipitates, support for other filter materials such as asbestos, glass fibre, etc. See item EP 2095, page 10.

Permanent Spout Magnet—For extracting iron parts from free flowing solid or liquid materials. Needs no electricity . . . suitable for either wet or dry materials . . . not affected by dust, heat, moisture or vibration. Units are self-contained and require no maintenance. See item EP 2207, page 24.

Brine Testing Set—Sharper, more permanent color standards. For testing liquids within range of 5 to 10 pH and increments of ½ pH unit, etc., etc. Uses colorimetric method with universal indicator. See item EP 2111, page 13.

Comparator - Densitometer — Automatic motor scanning of spectral line. For accurately, speedily projecting a spectrogram on a viewing screen and enabling positive spectral lines identification of up to 70 elements. Not sensitive to building vibrations . . . not affected by external light. See item EP 2099, page 11.

Double "U" Packings—Double wearing wall and double heel. Outer ply of oak tanned leather belting . . . heel reinforced against pinch. Reinforcements are automatic in adjustment to any pressure. Leather is "at rest," never having been drawn under distorting tension of forming rings. See item EP 2221, page 26.

Built-In Lantern Ring Puller—Eliminates "fishing" for hard-to-remove lantern rings. Construction well adapted to most types of stuffing boxes. Entire lantern ring removable in few seconds . . . maintenance men are sure to replace packing below ring as well as above . . . reducing wear and giving longer life. See item EP 2225, page 27.

Complete Product Directory—page 2.

Over 28,000 Copies

CCA

NOVEMBER
•
DECEMBER

1940

Volume 3 Number 6



THIS MONEY-BACK "CLING-SURFACE" OFFER makes it easy to cut out POWER BELT TROUBLES

Prove to your own satisfaction in 30 days that "Cling-Surface" treated belts won't slip... that they grip the pulleys and run slack. Notice fewer shutdowns. In addition there is lower power consumption and less maintenance. **Proof???** Just send for this EASY-TO-USE TRIAL OFFER: (1) One pint of Cling-Surface Belt Treatment, world famous since 1896. Regularly 75¢. (2) One Cling-Surface Pressure Applicator (shown at right)—6 3/4" brass spout, 3/4 pint steel container. Easy way to apply Cling-Surface (see drawing below). Regularly \$2.65, but get...



BOTH for \$3.00

Money back if not satisfied
in 30 days
CLING-SURFACE CO. (Est. 1896)
1047 Niagara St. Buffalo, N. Y.

"CLING-SURFACE" saves belts and power

When inquiring specify EP2053... see information request blank, pgs. 16-17

Straight-line trapping STOPS "DETOUR" PIPING



STRAIGHT-LINE piping of inverted bucket steam traps signalizes the end of wasteful, time-consuming "Detours." Such waste is no longer necessary—the modern Anderson

Super-Silvertop design makes "detour" piping out of date.

The guided, bucket-on-a-trap design of Anderson Super-Silvertop steam trap insures constant, perfect parts alignment. Longer lever arm gives greater condensate capacity and trap is easily inspected without disturbing pipe connections.

Get the complete story—send for your copy of "How To Choose a Steam Trap"—write to—

THE V. D. ANDERSON CO., 1954 W. 96 St., Cleveland, O.

Super-Silvertop STEAM TRAPS

When inquiring specify EP2054... see information request blank, pgs. 16-17

DIRECTORY of products in this issue

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What Does "LOW COST" Mean in a GOOD Pump?

In TABER it means Lower Pumping Costs and Longer Operation

● You cut costs on production troubles due to mis-applied ordinary pumps, because Taber Vertical Pumps FIT your job without special cost.

Various Submerged Types

Taber Pumps are built in all castable-machinable alloys or iron and steel... in a wide range of sizes and capacities.

Send for Bulletin V-735

This bulletin helpfully describes Taber Vertical Pumps. Illustrates many applications of these pumps to most any processing industry.

TABER PUMP CO. (Est. 1859)
320 Elm Street Buffalo, N. Y.

Protect Your Production
Schedule with TABER Pumps



When inquiring specify EP2055... see information request blank, pgs. 16-17

VALVES

Construction Features

- 1 Bonnet assembly completely sealed from thru-put. Diaphragm prevents corrosion, clogging or sticking of working parts.
- 2 No stem-packing or stuffing box required.
- 3 Valve can be installed without regard for pressure side.
- 4 Resilient diaphragm provides gasket-tight self-forming contact on weir at every closing. A drip-tight seal.
- 5 Diaphragm replacements inexpensive and infrequent. Made without removing body from line.

Corrosion Resistant Features
Bodies can be made of corrosion resistant alloys, or lined with lead, rubber or glass. Diaphragms made to handle over 500 different services.

Will Not
**LEAK-CLOG
STICK-BREAK
CORRODE**

For the FLOW CONTROL of
**CHEMICALS—ORGANIC and INORGANIC
COMPOUNDS—SEMI-SOLIDS—VISCIOUS
AND VOLATILE SUBSTANCES—
ABRASIVES—AIR—WATER, ETC.**

Write for descriptive booklet giving complete engineering data and service recommendations.



HILLS-McCANNACo.
2370 NELSON STREET CHICAGO

When inquiring specify EP2056... see information request blank, pgs. 16-17

NEW SOLUTIONS OF PLANT PROBLEMS

From the practical experiences of chemical and process manufacturers applying available products in new ways

Faster Blast Cleaning In Ceramics Plant

Sand Clogging Eliminated — Maintenance Costs Reduced



Problem—Ceramics plant encountered difficulty in cleaning room which lowered production from blast cabinets and tables because of gummed lines. Moisture and oil wet the sand, clogging the tank strainers and nozzles.

Solution—An "Aridifier" was installed in the air line just ahead of the sand tank. A trap, ahead of the unit, is opened each time the equipment has been idle for a shift in order to draw off

condensation that has accumulated in the lines. Another trap, connected to outlet of "Aridifier," is drained at regular intervals.

Wet, dirty, oily air from air receiver enters "Aridifier" at bottom and passes up over vanes in four ball bearing mounted rotors, which the air propels; two rotating in one direction and two in opposite direction to prevent alignment.

Results—No appreciable back pressure. Moisture, oil and dirt become impinged upon vanes and are thrown by centrifugal force to interior wall of housing (out of air stream) where contamination flows to outlet drain and to trap. Air leaves unit at top clean and dry. Sand clogging is eliminated and maintenance costs have been reduced, thus providing faster, more uniform blast cleaning.

Another unit has been installed in same plant on lines supplying compressed air to control valves on machinery, sprays and other equipment.

LOGAN ENGINEERING CO., Dept. EP, 4900 Lawrence Ave., Chicago, Ill.

When inquiring specify EP2057 . . . see information request blank, pgs. 16-17

Nylon Hose "Imperfects" Reduced 10 Per Cent

Production Speedup Noted With Air Conditioning Installation

Problem—Hosiery mill had problem of temperature and humidity changes which affected manufacture of nylon and silk hose, both materials being highly susceptible to variations in these conditions. Damage to hosiery from hand perspiration of employees was prevalent.

Solution—One centrifugal machine of 165 tons capacity and two 50-ton capacity refrigerating machines were installed when manufacture of nylon hose was begun. In gray process room where stocking leg seams are sewed together and foot attached to leg, a temperature of 85

degrees and relative humidity of 45 per cent are maintained. Same conditions are maintained in finishing room where hosiery is received for inspection and packing as



cellophane wrapping was one of factors requiring artificial weather control. Additional equipment was installed to air condition the boarding and knitting rooms completely and heat and ventilate the dye house.

Results—A 10% reduction was made in the number of "imperfects" in nylon hose. In addition to savings from perspiration damage to hose from workers' hands, ideal working conditions and healthful atmosphere was provided. Considerable production speedup was noted.

CARRIER CORP., Dept. EP, Syracuse, N. Y.

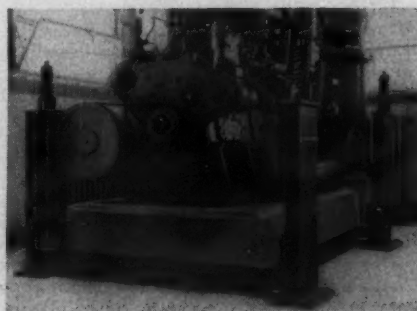
When inquiring specify EP2058 . . . see information request blank, pgs. 16-17

Vibration Transmission Halted on 4-Cyl. Diesel

Large Generating Unit Installed Without Concrete Foundation

Problem — 150 H.P., 4-cylinder Diesel generator was originally installed without resilient mounting, which later became necessary due to adverse sub-soil conditions in congested metropolitan district. If sub-soil situation had been known beforehand, installation could have been made on an isolated concrete base for inertia mass, but this could not be considered after installation due to excessive expense and delay.

Solution—Both engine and generator had been installed on integral steel sub-base, and it was simple to raise this sufficiently to insert transverse steel channel irons with steel spring welded at each end. Entire assembly was then resiliently mounted to eliminate vibration transmission through concrete floor. Control of the secondary free forces, inherent in 4-cylinder, 4-cycle internal com-



(Continued on next page)

REDLER. *The Safest* CONVEYOR-ELEVATOR

No Dust, No Void Space, And No Rough Handling



Only enclosed REDLERS move materials on masses in their own bulk, smoothly, at slow speeds, without disturbance . . . thus minimizing explosion hazards.

One unit both conveys and elevates, reducing the number of units needed. They require only $\frac{1}{4}$ to $\frac{1}{2}$ the usual space and handle practically any pulverized, granular, small lump and flaky material.

FIND OUT HOW TO SAVE WITH REDLERS FROM NEW CAT. 140—

This 64-page handbook should be a part of every Material Handling Equipment user's references. Includes types, dimensions, horsepower data, installations. Write for your copy now!



STEPHENS-ADAMSON MANUFACTURING COMPANY

11 RIDGEWAY • AURORA, ILLINOIS

CONVEYING • ELEVATING • SCREENING • TRANSMISSION

When inquiring specify EP2059 . . . see information request blank, pgs. 16-17

NEW MOTOR GUIDE

HELPS YOU SELECT THE CORRECT MOTOR FOR YOUR SPECIFIC JOB!

From the almost infinite number of Allis-Chalmers Motors, each with individual features combining special electrical and mechanical characteristics . . . you can now readily select the motor best suited to your needs . . . using the handy, new Lo-Maintenance Motor Guide!

In addition to complete type descriptions, this bulletin offers you quick-reference listings of dimensions, sizes and prices of the entire line of trouble-free Lo-Maintenance Motors. To get this valuable information on the motor that gives you full-measure construction—indestructible rotor and distortionless stator—send for your copy of free bulletin B-6052A today!



ALLIS-CHALMERS
MILWAUKEE, WISCONSIN

When inquiring specify EP2060 . . . see information request blank, pgs. 16-17



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FILTRATION
FACT BOOK
Charts
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Valuable
Filtration
Data

For more than 40 years our organization has been solving filtration problems for hundreds of manufacturers all over the country. We have designed and built equipment to handle successfully every type of industrial filtration. And seldom have we been confronted with a problem too tough to solve.

That's a broad statement to make. But it's based on experience. Why not let us prove it? No matter how difficult it may be — nor how rigid your requirements. Put your problem up to our engineers today.

Send samples of your material for testing. We will make a thorough analysis and submit unbiased recommendations without charge or obligation.

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Filtration Engineers for over Forty Years

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Sales Representative
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Merchants Exchange Bldg.
San Francisco, Calif.

When inquiring specify EP2061... see information request blank, pgs. 16-17



A small capacity mixer, designed to do its job thoroughly, quickly, economically. Our catalog F-1036 shows this 3½ cubic foot mixer and many others up to 550 cubic feet capacity. Write for a copy today.

SPROUT, WALDRON & CO., INC.
380 SHERMAN ST. MUNCY, PA.

Manufacturing Engineers... Since 1866

CRUSHING, GRINDING, GRADING, PACKING, ELEVATING
CONVEYING, MIXING AND POWER TRANSMISSION MACHINERY

When inquiring specify EP2062... see information request blank, pgs. 16-17

New Solutions (Con.)

(Continued from page 3)

bustion engines, was accomplished by adding stabilizers, which were anchored to original foundation bolts in concrete floor, thus providing necessary restraint to vertical movement.

Vibro-Isolator consists of single steel spring housed in ordinary steel or iron pipe. Unit permits critical adjustment to meet varying operating conditions. Adjustment screws facilitate re-leveling of entire assembly after suspension on isolators. Illustration shows units installed on 4-cylinder, 4-cycle 80 H.P. Diesel.

Results—Arrangement of steel spring isolating units permits them to be placed at or above plane of center of gravity of machinery, thus providing maximum stability in addition to correct isolation of vibration and structure-borne noise transmission. Vibration transmission was stopped entirely to permit satisfactory operation. Considerable expense and time saved by not having to install an isolated concrete base after equipment was set up.

KORFUND CO., INC., Dept. EP, 48-15 Thirty-Second Place, Long Island City, New York.

When inquiring specify EP2063... see information request blank, pgs. 16-17

Steel Cylinders Aligned For Placing Dished Ends

Saved Time In Repair and Fabrication of Tanks

Problem—Fabricating shop of chemical manufacturer had difficulty in welding flat and dished ends to welded steel cylinders preparatory to making tanks and other metal vessels, because cylinders were often slightly elliptical.

Solution—"Util-A-Tool," as shown in sketch, was used to bring pressure at sides of cylinder to restore circularity. Unit was left in place until end had been welded on; it was then removed through opening at opposite end. After remaining end was closed, tool was removed through a hand hole.

On cylinder aligning job, standard "Util-A-Tool" is used together with 2 ordinary pieces of pipe inserted in wells in nuts on both ends of forged steel screw. 20 deg. heads (1 of 5 types available) were used on pipe ends. Working ratchet handle expands both sides of cylinder equally at its narrowest point. After end is welded on, trigger reverses ratchet and pipe threads are retracted. Tool consists of 9 pieces of equipment contained in metal carrying case. It will pull, push, clamp, tension, bend pipe and structural members, straighten bent tanks or frames; pull wheels, gears and pulleys, and loosen frozen or stuck objects.

Results—Repair and fabricating of tanks and other processing equipment was simplified, with ends being placed in far less time.

TEMPLETON, KENLY & CO., Dept. EP, 1020 S. Central Ave., Chicago, Ill.

When inquiring specify EP2064... see information request blank, pgs. 16-17

To secure **EQUIPMENT PREVIEW** for your key men, turn to 'request slip'... page 16 and 17.



Vibrating Type

Totally Enclosed

Rubber Shackled Pan

Patented self-contained, self balancing drive unit applies reciprocating motion directly to pan and eliminates transmission of vibration to surrounding structures. Ajax rubber shackles produce smooth uniform action and higher conveying speeds. Used by many industries. Write for data.

Ajax Lo-Conveyors built in lengths up to 50 feet, widths up to 4 feet. Can be installed in series for boots. Write for data on Ajax Vibrating Conveyors and Screens.

AJAX FLEXIBLE COUPLING CO.

201 English St. Incorporated 1920 Westfield, N. Y.

When inquiring specify EP2065... see information request blank, pgs. 16-17

**GRAPHITE
OR CARBON**

**CRUCIBLES
MOLDS
TRAYS**

Used in many industries for melting, treating or processing at temperatures too high to permit the use of containers of other composition.

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INFORMATION

NATIONAL CARBON COMPANY, INC.
UNIT OF UNION CARBIDE AND CARBON CORPORATION

CARBON SALES DIVISION, CLEVELAND, OHIO

General Office: 30 East 42nd Street, New York, N. Y.

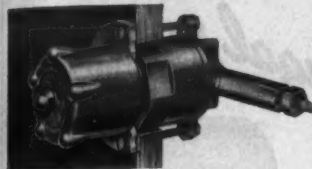
BRANCH SALES OFFICES

NEW YORK • PITTSBURGH • CHICAGO • ST. LOUIS • SAN FRANCISCO

When inquiring specify EP2066... see information request blank, pgs. 16-17

Pressure Reducing Pilot

Huge Valve to Diaphragm Area Ratio Gives Extreme Accuracy



Uses—Designed especially for laboratory use, this small-volume regulator is available either as a combination pressure reducer and relief, or simply as a relief valve.

Features—Extreme accuracy, due to enormous valve to diaphragm area ratio, governs inlet pressure range up to 3000 lbs. and outlet pressure range from $\frac{1}{2}$ to 1000 lbs. In addition to manual setting, unit can be adjusted for a micrometric flat spot or dead range by positioning the acorn-nut-encased adjuster on handwheel.

Description—Supply pressure for this compact unit may be any non-corrosive air or gas, from a line, cylinder or container under a pressure greater than the desired maximum delivery pressure. Unit is furnished for flush-inset or surface panel mounting, but is also available with bracket for installation on bar or pipe. Ball bearing, spring handwheel setting used for simple adjustment. Bulletin 109A describes operation.

GROVE REGULATOR CO., Dept. EP, 1739 Poplar St., Oakland, Calif.

When inquiring specify EP2067... see information request blank, pgs. 16-17

Arc-Resistant Phenolic Molding Compound

Uses—Material was formulated specifically to prevent tracking where there is combined electrical spark and rubbing action.

Description—Compound is known as "Durez 8685." Has very high resistance to carbonization under an arc. While slightly slower to cure in the mold, material's electrical properties are increased by baking after molding. Material will hold its high dielectric strength when used at moderately high temperatures. Compound is somewhat more flexible in its final set than standard materials; does not crack under expansion and contraction of metal inserts around which it may be easily molded.

DUREZ PLASTICS & CHEMICALS, INC., Dept. EP, North Tonawanda, N. Y.

When inquiring specify EP2068... see information request blank, pgs. 16-17

Masonry Bolt Anchor

When Locked, Anchor Cannot Move Vertically or Horizontally



Uses—Features permit use in such places as bottomless holes, hollow tile, cinder concrete floors, etc.

Features—No caulking is required—few blows of hammer drive

sleeve into wall. When locked, anchor cannot move vertically or horizontally.

Description—Two-piece unit consists of sleeve and nut, held together by perfect precision taper friction. Sleeve is formed with one vertical slot extending its entire length which opens or closes according to variation in diameter of hole in masonry. As normal diameter of sleeve is greater than the nut, it simply contracts when driven into normal hole, locking nut in position at any depth desired. As nut is drawn further into sleeve by tightening the bolt, it increases the radial contact with walls of hole. Tighter the bolt, the greater the engagement with the masonry.

RAWLPLUG CO., INC., Dept. EP, 98 Lafayette St., New York, N. Y.

When inquiring specify EP2069... see information request blank, pgs. 16-17

Buflovak

PROCESS EQUIPMENT

DRYERS

EVAPORATORS

CHEMICAL PLANT

EQUIPMENT

SOLVENT RECOVERY

APPARATUS

PROCESSING & REACTION

KETTLES

Literature on request.

BOOTH 81

NATIONAL CHEMICAL SHOW

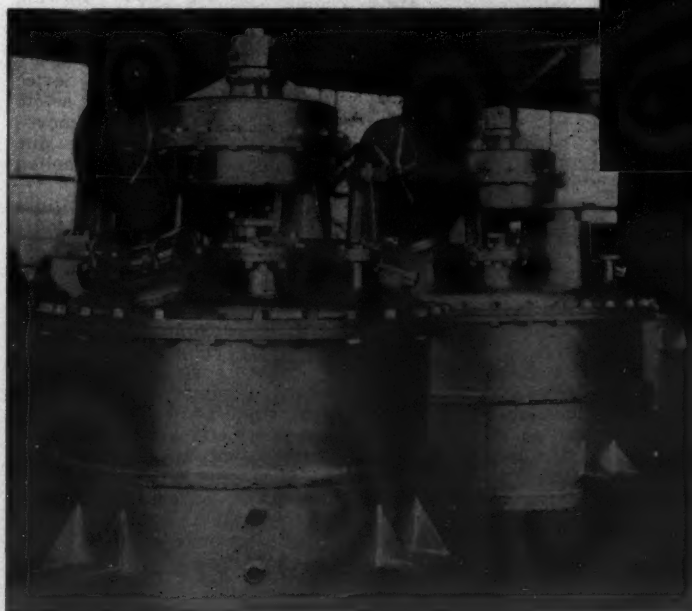
STEVENS HOTEL
CHICAGO

December 11-16, 1940

BUFFALO FOUNDRY & MACHINE CO.

1551 FILLMORE AVE., BUFFALO, N. Y.

NEW YORK—295 Madison Ave. CHICAGO—1636 Monadnock Bldg.
CLEVELAND—822 Keith Bldg. ST. LOUIS—2217 Olive St.,
OAKLAND, CAL.—1395 Franklin St.



(Top)

Autoclave, welded construction, designed to operate under high pressure. It is equipped with a V-belt drive for the agitator and forced feed lubrication for the agitator stuffing box and bearings.

This is one of the many special types of processing kettles designed and built to meet special requirements.

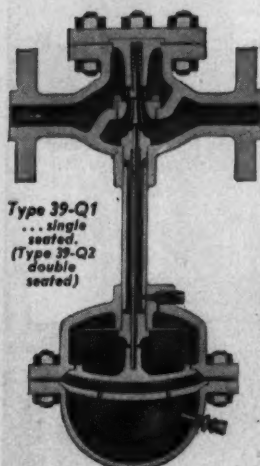
(Left)

Stainless Steel Processing Kettles. These are two of five recently completed on one order. They are equipped with a steam jacket, hemispherical bottom and power driven agitator.

Here again, both design and materials have been combined to meet special plant requirements.

When inquiring specify EP2070... see information request blank, pgs. 16-17

it's not only new... but "NEWS"! **this FOSTER PRESSURE REGULATOR** combines ruggedness with extreme accuracy of regulation in a simple valve that has no springs, no weights to adjust or change



Type 39-Q1
... single
seated.
(Type 39-Q2
double
seated)

Simplicity of loading is one of the outstanding features of the Foster Type 39-Q1 and 39-Q2 Pressure Reducing Regulators. The dome may be loaded at the valve as shown below, or from a distant location through an extension loading tube. A compressed gas bottle is used for highest pressures, and where a general air supply is available, a simple distant and conveniently located pilot control valve can be used.



Here is one of the latest developments in pressure reducing regulators... an air dome-loaded design for the accurate regulation of high and low pressure control of hot fluids, whether steam, liquids, or gases.

Built for initial pressures up to 2500 pounds per square inch and temperatures up to 1000 degrees Fahrenheit, this valve will handle pressure reductions of a magnitude previously impractical in a single stage. It can be adjusted for reduced pressures from 5 pounds up to within a few pounds of the initial pressure simply by changing the dome load.

There are no operating springs or weights in this simple regulator, and no stuffing box. A constant loading is imposed by air—accuracy of regulation is unaffected by spring deflection and hysteresis. The pilot design commonly used to overcome these inaccuracies is not necessary in this simple construction which is as positive as direct weight loading, but without the clumsiness common to weights.

Send for this Bulletin!

This eight-page, fully-illustrated bulletin containing practical and useful information (application, features, operation, installation—also dimensions and weights) on the Foster Type 39-Q1 and 39-Q2 Pressure Reducing Regulator is just off the press. A copy will be sent to you without obligation or cost... simply ask for Bulletin 10.



FOSTER ENGINEERING
124 MONROE STREET, NEWARK, N. J.

THERE IS NOW A FOSTER VALVE FOR EVERY SERVICE

When inquiring specify EP2071... see information request blank, pgs. 16-17

Explosion Proof Lamp

Has Heavy Spark-Proof Hook and Guard

Uses—Underwriters' listing indicates uses in petroleum refineries, gas and ink plants, by paint, varnish and chemical manufacturers, in paint booths, or anywhere that explosive vapors exist.

Features—Molded plastic safety grip insulates heat. Automatic circuit breaker shuts off current if globe breaks. One-piece guard must be in place before lamp will light. Maker states that light capacity is $2\frac{1}{2}$ times that of any portable lamp of equal weight ever before listed by Underwriters.

Performance—Class 1, Group D locations call for the following tests: (1) Dropping lamp from height of 36" ten times without breaking. (2) Temperature test (a) lamp enclosure must remain well below ignition point of gasoline and (b) handle must never get hot enough to break down insulation of extension cord. (3) Lamp must be vibrated for hours in a special machine without any part of assembly working loose. (4) Globe and fixture subjected to 360 lbs. hydraulic pressure without failure. (5) Gasoline vapors must explode inside globe without igniting vapors surrounding fixture.

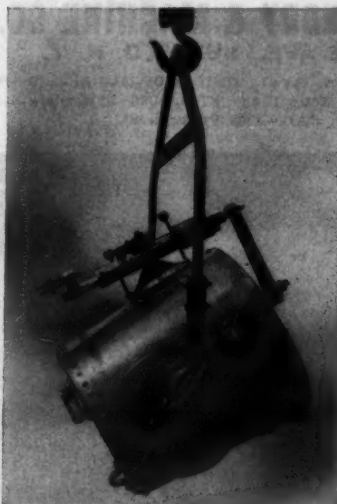
STEWART R. BROWNE MFG. CO., Dept. EP, 258 Broadway, New York, N. Y.

When inquiring specify EP2072... see information request blank, pgs. 16-17



Worm-Geared Ladles

Stopper Rig Draws Slag-Free Metal from Bottom



Uses—For handling molten steel and other metals.

Features—Construction features include a stopper rig for drawing pure, slag-free metal from ladle bottom and a geared turning device so designed as to prevent any movement of ladle due to weight of molten metal.

Description—Illustration shows four-ton ladle made of $\frac{3}{4}$ " steel plate, four feet high and four feet in diameter. Similar ladles with less gear clearance are available for

handling molten tin, babbitt, lead, zinc, etc. Stopper rig consists of carrier arm, slide, guide and stopper rod, the latter extending down through metal to ladle bottom. Rod has fire clay or heat-resistant terra sleeve with graphite plug on bottom. When plug is raised metal is discharged through bottom and slag (which floats on top) is prevented from getting into ingot mould or casting. Self-locking turning mechanism consists of worm wheel mounted on ladle trunion and integral with bail. Roller type bearings are used and entire mechanism is mounted in oil-tight case with all gears operating in oil bath.

TREADWELL CONSTRUCTION CO., Dept. EP, 629 South 12th St., Midland, Pa.

When inquiring specify EP2073... see information request blank, pgs. 16-17

ALLIS-CHALMERS ANNOUNCES NEW ALL-IN-ONE

Electrifugal PUMP!

Check these NEW
Extra-Value Features
that Mean
More Gallons at
Less Cost to You!



NEW FEATURE—Motor and pump designed on one shaft and one housing—Increases compactness and flexibility!

NEW FEATURE—Specially Designed Allis-Chalmers Lo-Maintenance Motor... with special splash-proof features that safeguard motor from liquids!

NEW FEATURE—Combination of indestructible rotor and distortionless stator... bronze fitted pump parts—Assures improved performance!

NEW FEATURE—Greater stability and rigidity of all-in-one design... fewer parts to wear—Adds to longer life, lower maintenance!

But learn the whole story of the NEW extra-value features at no extra cost that you get with this new Allis-Chalmers Electrifugal Pump! SEND FOR BULLETIN B6140 TODAY!

ALLIS-CHALMERS
MILWAUKEE, WISCONSIN

When inquiring specify EP2074... see information request blank, pgs. 16-17

For a SMOOTH, DEPENDABLE DISCHARGE

You can't beat the Combination of—



A SYNTRON MAGNET VIBRATOR

On the hopper—and

A SYNTRON VIBRATORY FEEDER

Controlling its discharge flow

Write for new catalog showing many sizes of both

SYNTRON CO. 110 Lexington Ave. Homer City, Pa.

When inquiring specify EP2075... see information request blank, pgs. 16-17

For Medium Weight Sacking Operations . . .

Here is an EXACT WEIGHT Scale built expressly for fast packaging from 20 to 53 pounds. This unit is rugged, works anywhere it is placed regardless of the kind of surface and is accurate to the ounce under full carrying load of 53 pounds. Dials are placed in the top . . . are visible from any angle for floor and low bench operations. Weights are covered with dust cover to avoid error from foreign matter. Dashpots are offset for easy removal and cleaning. It's the most popular check-weighing equipment in its capacity class . . . now in use in more than 53 major American industries.



EXACT WEIGHT Scale Model 1038. For fast, accurate bag and carton weighing; equipped with carrying handles for easy portability; requires no leveling for uneven floors or low benches; top reading dials graduated 8 oss. over and underweight. Sensitive to 1 oz. —Capacity to 53 lbs.

Write for complete specifications for chemical processing operations. Do it today!

THE EXACT WEIGHT SCALE CO.

31 W. Fifth Ave. Columbus, Ohio

There is no substitute for Exact Weight.

When inquiring specify EP2076 . . . see information request blank, pgs. 16-17

Floor Dye Resists Acid, Alkali and Fire

Uses—Floor dye for use on concrete floors as well as wood.

Features—Easily applied—anyone can apply with whitewash or roofing brush. Provides bright, enamel-like finish. If applied in evening, floor is ready for service next morning.

Performance—Single coat of "Colorflex", in each color, was placed on a wooden and a concrete panel. Sodium-hydroxide in its most severe form used as a total alkali and a spot dropped upon each color. No mark resulted and glass was not affected, except on the green color. With the green color, sodium-hydroxide merely disintegrated the blue and left the yellow which forms a yellowish spot on the green color. No effect at all on other three colors. Material has also withstood tests of concentrated sulphuric acid, a 50% solution of water and sulphuric acid, carbolic acid and a spillage of alcohol ignited and burned until alcohol has been totally consumed. These latter tests did not mar polish or gloss on material.

Description—Floor dye is furnished in four colors, battle-ship gray, linoleum brown, tile red and emerald green. Maker will send test samples.

FLEXROCK CO., Dept. EP, 2311 Manning St., Philadelphia, Pa.

When inquiring specify EP2078 . . . see information request blank, pgs. 16-17

1500 Deg. Insulation in Block and Pipe Form

Uses—"L-W Superex" is offered for use generally in stationary and marine power plant equipment and piping, the blocks being suitable for use in industrial furnaces, oven, kilns, roasters, regenerators, high temperature mains, flues and stacks, where the insulation will be subjected to temperatures between 600 deg. and 1500 deg. F. Sectional form of the material is used for piping and headers with the same temperature range.

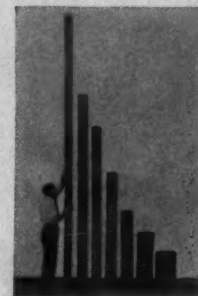


Description—Insulation is of the moulded diatomaceous silica type. Light weight, weighing only 20 lb. per cu. ft. Blocks are furnished 3", 6", 9" and 12" wide in standard lengths of 18" and 36", and in thicknesses from 1" to 4". Curved blocks are also available. Pipe insulation is supplied to fit standard pipe sizes, in sections or segments 3 ft. long and up to 2 1/2" thick. Material is marked with green ends to distinguish it from other products.

JOHNS-MANVILLE CO., Dept. EP, 22 East 40th St., New York, N. Y.

When inquiring specify EP2079 . . . see information request blank, pgs. 16-17

WIRE AND FILTER CLOTH REQUIREMENTS PROMPTLY SHIPPED



Wire cloths stacked in widths up to 14'.

NOW IS THE TIME TO PREVENT BREAKDOWNS THROUGH BETTER SCREENS LEAVES ETC.

The wide range of fabrics and weaves carried in stock—the unrivaled facilities of our plant for fabricating wire and screen assemblies—and our skilled workmanship, enables us to do even the "difficult" job economically and rapidly.

If you want a cleaner filtrate, a faster throughput or reduced filter fabric costs, get in touch with us. We can serve you intelligently, economically and promptly.

MULTI-METAL
WIRE CLOTH COMPANY
INCORPORATED
1101 J. HARRISON AVE. NEWARK, N.J.

When inquiring specify EP2080 . . . see information request blank, pgs. 16-17

Hackney 2-PIECE DRUM FOR SULPHURIC ACID SERVICE

Tests and actual performance records are convincing evidence of the added strength and durability of this new Hackney drum designed and constructed especially for sulphuric acid service.

The two-piece construction, eliminating chime crevices, minimizes the possibility of "chime failure." And the reinforced, separate chime protectors as well as the I-bar hoops increase resistance to rough handling and abuse. Two-pass circumferential butt weld, and attachment of heavy forged spuds by two-pass weld, with complete penetration, avoid possibility of crevices and resulting corrosion and bung failures. Durability is still further increased by heat treatment.

Hackney Aqua Ammonia Drums

—are similar in design and construction to the Hackney sulphuric acid drum. Pickled sheets of special analysis steel are used in the fabrication of Hackney ammonia drums to provide for shipment of clean colorless aqua ammonia.

Pressed Steel Tank manufactures containers for gases, liquids and solids. Let Hackney engineers help you determine the most practical and economical container for your requirements. Write for details, no obligation.



PRESSED STEEL TANK COMPANY

1399 Vanderbilt Concourse Bldg. N. Y. 1495 So. 66th St. Milwaukee
2083 LaSalle St. Rm. 1709 Chicago 695 Roosevelt Bldg. Los Angeles

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

When inquiring specify EP2077 . . . see information request blank, pgs. 16-17

Blaw-Knox GRATING

ALL-AMERICAN CHOICE



FREE

Paper weight size sample — Just fill in and mail the coupon.

BLAW-KNOX DIVISION of Blaw-Knox Co.
Farmers Bank Bldg., Pittsburgh, Pa.
SEND GRATING SAMPLE TO:

Name _____
Street _____
City _____ State _____

When inquiring specify EP2081 . . . see information request blank, pgs. 16-17



IF YOU need hot water—and have steam available—the Johnson Instant Water Heater will solve your problem in the simplest possible way and with the greatest economy of heat and fuel.

Unlike multi-tube types, the Johnson "Instant" is a simple, sturdy long-lived unit. Long water travel in contact with steam heated surfaces is accomplished by a few rugged trouble-free parts, and this makes it possible to operate on high pressure steam—up to 150 lbs. in standard types and up to 250 lbs. in special types.

The ability to operate on high pressure steam eliminates reducing valves, simplifies installation and means greatly increased capacity for "instant" heating, storage tank heating, booster service, pre-heating, process-liquid heating and many other services. When used on low pressure steam the sturdy Johnson construction means extra years of trouble-free service.

Write for bulletin explaining dollar-saving uses.

Johnson Corporation

825 WOOD STREET THREE RIVERS, MICH.

When inquiring specify EP2082... see information request blank, pgs. 16-17

CORROSION RESISTANT NOZZLES for CHEMICAL SERVICE

- We make all types of nozzles for spraying chemicals and corrosive liquids, cleanly designed and with special non-clogging features. Made of stainless steel, hard rubber, brass, all iron, Monel, silicon bronze and lead.
- If you need nozzles for special uses, let us help you. All types and sizes described in our big new catalog. Send for your copy, price list and data sheets today.

SPRAYING SYSTEMS CO.
4037 West Lake St., Chicago, Ill.

SPRAY NOZZLES and ACCESSORIES

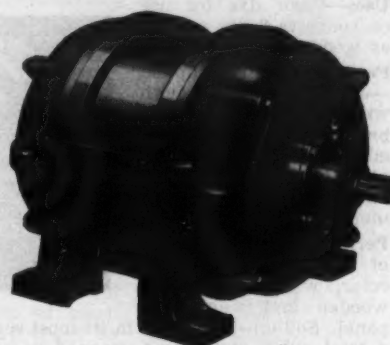
SPRAYING SYSTEMS CO.

When inquiring specify EP2083... see information request blank, pgs. 16-17

Multi-Speed Motors

Low First Cost & Maintenance — Efficient Low-Speed Operation

Uses — Where machines or equipment, for best operation, require that they be driven at more than one speed, such as air compressors, reciprocating pumps, mixers, stokers, conveyors, hoists, centrifugal pumps, blowers, etc.



Features—Multi-speed, squirrel-cage motor has constant speed at any of 2, 3 or 4 selective speeds — does not vary with fluctuating load conditions. Simple construction — needs no expensive brushes or collector rings — gives low first cost. Less wearing parts, lower maintenance.

Description—Motors are built in 2, 3 and 4 speeds. Grind finish is provided on both rotor and stator to assure uniform air gap. Special insulating varnish gives windings complete protection against moisture, oil and grease. Motors are supplied in the standard open, totally-enclosed, splash-proof or explosion-proof in size range from 1/2 to 150 H.P. Each connection to leads for three selective speeds produces a motor of similar characteristics to a single-speed, squirrel-cage motor. Motor frames are somewhat larger than for corresponding H.P. and speed of single-speed motor. Bulletin M-50 gives complete details.

HOWELL ELECTRIC MOTORS CO., Dept. EP, Howell, Mich.

When inquiring specify EP2084... see information request blank, pgs. 16-17

Explosion-Proof Switch

Compact Unit Has Removable Cover Plate For Terminal Inspection



Uses—Underwriters' approval for hazardous locations, Class I, Groups C and D; and Class II, Group G. These listings are for atmospheres containing vapors of ethyl ether, gasoline, alcohol, acetone, lacquer solvents, etc., and for grain dusts.

Features—Housing is very compact with mounting space kept to a minimum by omitting feet or lugs. Removable cover plate gives ready access to terminals. Within listed rating, life of over a million operations may be expected. All types of these switches have precision characteristics with maximum movement differential of .001".

Description—Actuation types now available are the roller arm with the axis of roller either parallel to or at right angles to the arm, and a bullet nose push rod type. Terminals accept No. 14 solid wire. Switch is mounted inside housing so that it may be easily removed for inspection or change. Housing is cast iron, 3 3/8" x 2 1/2" x 2". Single pole, double throw contact arrangements now available.

MICRO SWITCH CORP., Dept. EP, Freeport, Ill.

When inquiring specify EP2085... see information request blank, pgs. 16-17

Notice...

To Manufacturers Who Are Bidding On—Or Have Already Received—Defense Program Orders

Steel Strapping is usually specified in government orders for security and protection to materials delivered to all its departments. Generally the strapping size is specified. However there are commodities ordered that need the protection of strapping in which strapping is not specified. In such cases the supplier must determine the method of application and size of strapping to be used.

The Signode System of Steel Strapping brings cost control in time and materials to the oft forgotten shipping operation. This means the manufacturer of Defense Orders can rely upon the Signode System to help him meet close delivery dates and take advantage of significant cost savings as well—savings that can well mean the difference between profit and loss on a closely figured Defense Program contract.

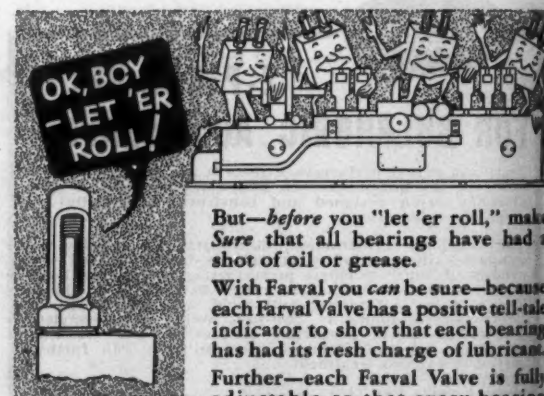
Write or Wire Today for Full Details.

SIGNODE STEEL STRAPPING CO.
2607 N. Western Ave., Chicago, Ill.
370 Furman St., Brooklyn, N.Y.
456 Bryant St., San Francisco, Calif.

Grant Bldg., Pittsburgh, Pa.

40 OFFICES THROUGHOUT UNITED STATES AND CANADA

When inquiring specify EP2086... see information request blank, pgs. 16-17



But—before you "let 'er roll," make Sure that all bearings have had a shot of oil or grease.

With Farval you can be sure—because each Farval Valve has a positive tell-tale indicator to show that each bearing has had its fresh charge of lubricant.

Further—each Farval Valve is fully adjustable so that every bearing

always gets the right amount of lubricant.

And—you can deliver a new charge of lubricant to all bearings as often as required in less than one minute, from one safe, central point.

A Farval Centralized System of Lubrication will reduce labor of oiling; eliminate waste of lubricant; increase production; reduce repairs and maintenance; and prolong the life of equipment.

May we have a Representative call? The Farval Corporation, 3257 East 80th Street, Cleveland, Ohio.

Affiliate of The Cleveland Worm & Gear Company, Manufacturers of Automotive and Industrial Worm Gearing

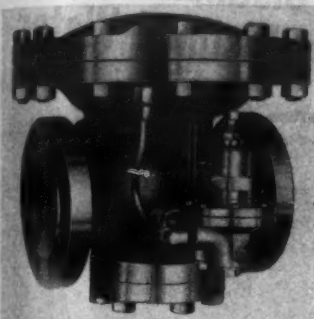
In Canada: PEACOCK BROTHERS LIMITED

FARVAL CENTRALIZED SYSTEMS OF LUBRICATION

When inquiring specify EP2087... see information request blank, pgs. 16-17

Pilot Operated Valve

Pressure Reducer Functions Without Auxiliary Operating Medium



Uses—Designed especially for steam service where accurate regulation is required. Valve is normally used where it is not desirable to use a pilot that requires auxiliary operating medium or where such medium is not available.

Features—Extremely accurate regulation is claimed

for these valves. Has unusually large capacities. Unit is small and compact and operates without any auxiliary operating medium. Parts are readily accessible.

Performance—Test chart shows 4" Type 92 valve maintains reduced pressure of 4 lbs. with accuracy. Valve handles inlet pressure of 20 to 100 lbs. and opens and closes average of 4 times daily during peak load periods. Maximum load during these periods is 10,000 lbs. of steam per hr.

Description—High-tensile iron ribbed construction is used for bodies. Two pilots for high or low pressure service are available and these are interchangeable in all sizes. Valve is equipped with removable pilot strainer separate from valve body. 10 sizes available range from 1/4" to 6". Pressure range runs from 1 lb. to 200 lbs. Bulletin C-1 gives complete details.

FISHER GOVERNOR CO., Dept. EP, Marshalltown, Iowa.

When inquiring specify EP2088... see information request blank, pgs. 16-17

Enclosed, Heavy-Duty Vibrating Screens

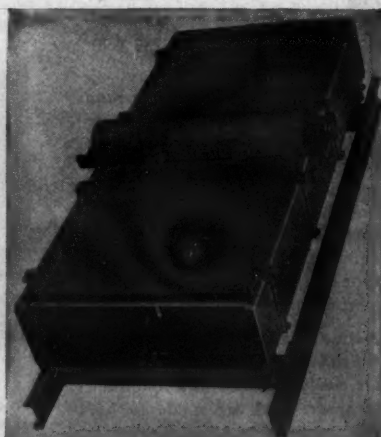
Uses—For separating and screening chemicals, food products, etc., where dust-tight enclosures are needed to keep foreign elements away from product being screened.

Features—Simple, low cost unit, has screen sections which can be quickly and easily changed. Unit has removable top panels giving ready accessibility to all parts for inspection of screen performance, wire mesh condition or for separation tests of product.

Description—Copper-bearing steel veil plate is built into bottom of vibratory frame, thus forming a dust-tight enclosure at bottom of screen. This also serves as a conveyor for carrying fines to discharge end of unit. The removable top panels are the same material and are placed at either side of the vibrating mechanism.

UNIVERSAL VIBRATING SCREEN CO., Dept. EP, Deane Blvd. & St. Paul Tracks, Racine, Wis.

When inquiring specify EP2089... see information request blank, pgs. 16-17



READCO BLENDERS AND SINGLE ARM MIXERS. Featuring counter flow action, with or without jackets for handling dry materials or semi-plastic masses.

READCO DUSTLESS WEIGH HOPPERS. Combine automatic accurate weighing with Readco dustless features. Sizes from 1 1/2 to 6 bbl. capacity.

READCO VIBRATING SIFTER. A new dustless sifter with combination Vertical and Horizontal screen action, counter balanced to eliminate vibration.

READCO LAB MIXER. Easy to dismantle — easy to clean. Available in capacities from 1 to 5 quarts with or without jackets.

READCO VERTICAL MIXERS. Built in 10 sizes from 3 to 140 qt. capacity with 3, 4, or 6 heater speeds. The 4 Speed 40 qt. Model D-40 with steam jacket is illustrated.

READCO MIXING AND MATERIAL HANDLING EQUIPMENT

Engineered to give YOU Lower Cost PERFORMANCE

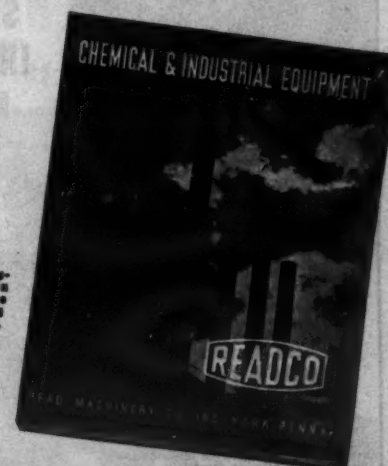
For lower cost operation, the Chemical Industry today calls for machinery properly designed and coordinated with modern production methods. A wealth of engineering experience along this line is at your disposal by READCO's Engineering Department.

READCO's engineering and manufacturing facilities are available for the production of an almost limitless variety of standard and special chemical and industrial equipment. The smallest laboratory mixer — pilot plant equipment — equipment for commercial production — all are included in the scope of READCO's facilities.

Whether your equipment requirements call for welded or cast construction — for fabrication from non-ferrous metals, carbon steels, solid or clad special alloy steels — READCO Engineers and Craftsmen are available for every phase of its design and fabrication.

Write READCO to help solve your chemical equipment problems.

READCO's complete line of equipment is illustrated and described in this free catalog. The complete line includes material handling equipment, dustless weigh hoppers, laboratory and pilot plant mixers, bottom discharge and tilting bowl mixers, blenders, shredders, agitators, vertical mixers, fabricated vessels and pharmaceutical equipment. Request your copy now through Equipment Preview or write READCO direct.

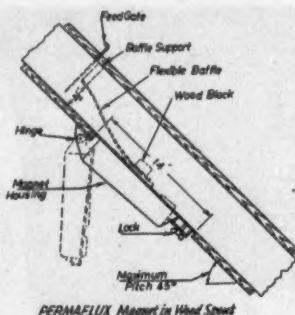


READ MACHINERY CO. INC.

YORK, PA.

When inquiring specify EP2090... see information request blank, pgs. 16-17

PERMANENT PROTECTION AGAINST CONTAMINATING IRON



PERMAFLUX Magnet in Wood Spout

The new, Permanent Magnet, for dry and wet materials to Eliminate Iron, Fire Hazard, Damage to Equipment. This separator gives years of dependable, continuous service without any possible loss of power. Class "A"—Highest available Rating by Mutual Insurance Underwriters' Bureau.

AS STRONG AS AN ELECTRO MAGNET

Simple to install. Easy to clean
NO ELECTRICITY. NO WIRING. NO MAINTENANCE

NIAGARA PERMAFLUX MAGNET

(Patents applied for)

THE RICHMOND MANUFACTURING CO., Lockport, N. Y.



Manufacturers of:
ELECTRO MAGNETIC SEPARATORS
HIGH SPEED SIFTERS AND SCREENERS
Air Separators
Dust Collectors
Brass Dusters, etc.

When inquiring specify EP2091... see information request blank, pgs. 16-17

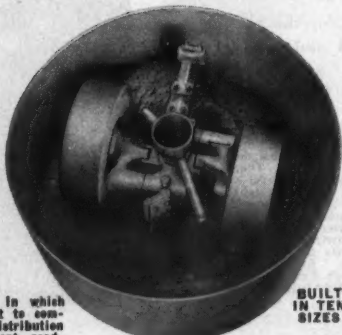


ANOTHER PRODUCT SUCCESS by MULLING in the SIMPSON INTENSIVE MIXERS

SPECIAL
"ROSITE"
INSULATOR
produced by
ROSTONE CORP.,
Lafayette, Ind.

A COLD-MIX INORGANIC PLASTIC for HIGH ARC INSULATION

This stiff body compound, in which the ingredients are resistant to combination and intimacy of distribution by the usual stirring treatment, readily yields to the thorough-going mulling action of the Simpson Mixer. 3500 Simpson Mixers are in service on over 50 different classifications of dry, plastic and semi-plastic process materials. The rubbing, kneading and smearing effect under pressure of



BUILT
IN TEN
SIZES

heavy, wide-faced mullers, revolving on the material and adjustable to avoid grinding, results in a rapid distribution of all the elements of the mix and a strictly uniform body material.

INVESTIGATE NOW — DATA OR REPRESENTATIVE — NO OBLIGATION

NATIONAL ENGINEERING COMPANY

Dept. EP 549 W. Washington Blvd. Chicago, Ill., U. S. A.
Representatives in all sections of U. S. and foreign countries.

When inquiring specify EP2092... see information request blank, pgs. 16-17

Normal Primary Alcohols

Octanol and Decanol Now Available in Commercial Quantities

Uses—Normal alcohols, long used in laboratories, now available in commercial quantities; for use as anti-foaming agents, and provide a means of introducing octyl and decyl groups for chemical manufacture; may be used as mixed solvents for extraction of fats and oils.

Description—Both alcohols have low solubility in water, but abate foam within solubility limits, 0.01%—0.05%. Normal decanol has bland odor. Specifications for two alcohols are: normal octanol, specific gravity 25/25 deg. C., 0.8225—0.8250; hydroxyl number, 430 plus or minus 15; iodine number less than 1; distillation range, A.S.T.M. method, 90% between 193—196 deg. C.; appearance, water white. Normal decanol, specific gravity 25/25 deg. C., 0.8300—0.8380; hydroxyl number, 360 plus or minus 15; iodine number less than 1; distillation range, A.S.T.M. method, 90% between 228—233 deg. C.; appearance, water white.

E. I. duPONT de NEMOURS & CO., Fine Chemical Div., Dept. EP, Wilmington, Del.

When inquiring specify EP2093... see information request blank, pgs. 16-17

"Retractable Anvil" Carton Stapling Machine

Seals Ends of Long, Small Cross Section Cartons

Features — Stapling machine eliminates all lifting and handling of filled cartons and effects savings in sealing costs on long, small cross section cartons.

Operation — Accompanying illustration shows how these long hard-to-handle cartons, laid flat on the conveyor, filled with merchandise, are guided and centered between the two "retractable anvil" stapling units so that both ends are securely sealed at the same time. High speed machine drives and clinches four staples, two into each end of carton, with each stroke of the machine.

INTERNATIONAL STAPLE & MACHINE CO., Dept. EP, 116 N. 7th St., Philadelphia, Pa.

When inquiring specify EP2094... see information request blank, pgs. '6-17



Fritted Glassware

Chemical Stability; Resistance to Mechanical and Thermal Breakage

Uses—Made of "Pyrex" Chemical Glass No. 774, fritted glassware is used for such purposes as filtration of coarse precipitates; support for other filter materials such as asbestos or glass fibre, sand or powdered glass; gas dispersion and filtration; mercury filtration; extraction; filtration of fine precipitates, such as BaSO₄; crystalline precipitates, etc.

Features—Fritted discs are mechanically, thermally and chemically resistant; especially important in micro chemical and analytical work where contamination by foreign materials must be kept at absolute minimum. In quantitative analysis, it is not necessary to prepare special filter mat since each item has large, uniform filtering area. Three porosities provide rapid filtrations.

Description—Discs are made in three porosities designated as coarse, medium and fine. Various tubes, funnels, thimbles, beakers, etc., are shown with specifications in Supplement Catalog No. LP 18.

CORNING GLASS WORKS, Dept. EP, Corning, N. Y.

When inquiring specify EP2095... see information request blank, pgs. 16-17

Barnstead Distilled Water is Automatic Distilled Water

Simple as
turning a knob

Add one thing more to the advantages of Barnstead Water Still. In addition to highest quality distillate, low operating cost, easy cleaning, and long-life construction, Barnstead gives you convenient automatic operation. Simply turn the still on. No other manual attention. No worries as to the quality of your distillate.

Some Barnstead Water Stills go even further. Some are even self-starting, self-stopping and self-flushing. Without touching it, you get a predetermined automatic supply of consistently pure water at all times.

Send for catalog

See our exhibit at National Chemical Exposition, Stevens Hotel, Chicago, Dec. 11-15, Booth 67.



Barnstead Water Stills come in sizes from 1/2 to 500 gallons per hour. Operation by gas, steam or electricity.

Barnstead
STILL & STERILIZER CO. INC.

86 LANESVILLE TERRACE, FOREST HILLS, BOSTON, MASS.

When inquiring specify EP2096... see information request blank, pgs. 16-17

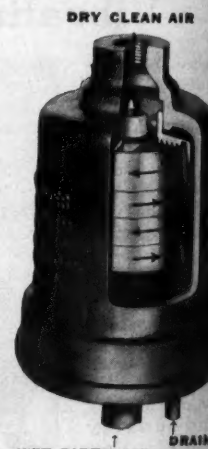
Wet, Dirty Air Gets the "Red Light"



When an ARIDIFIER is installed in compressed air or gas lines, moisture, oil, dirt and fine scale are stopped and removed.

Four rotors, each alternate rotor revolving in opposite directions, effect thorough removal of all contamination by centrifugal force. Thousands of units have proved themselves, cutting costs by eliminating moisture and tool replacements for every type of industry using air on tools, motors, sprayers and in processes.

A small investment that pays worthwhilereturns, ARIDIFIERS are easily installed in a minimum of space—and are made for air lines from 3/8" to 10".



WET DIRTY AIR

Write for bulletin and details of our offer to try a unit in your plant at our expense.

LOGAN ENGINEERING
COMPANY
4900 Lawrence Avenue
Chicago, Illinois



The ARIDIFIER
Dries and Cleans Compressed Air

When inquiring specify EP2097... see information request blank, pgs. 16-17

INSTRUMENTS OF CONTROL

*New developments in control instruments
for Production . . . for Laboratory*

Batch Timing Mechanism

Timing Begins Only When Set Point Is Reached

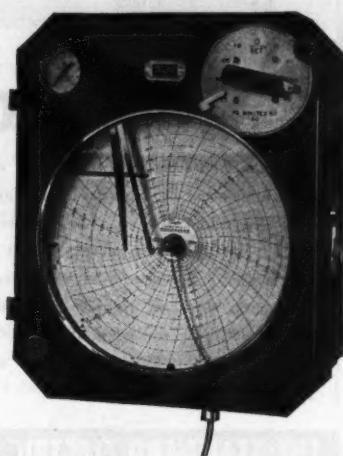
Uses—For measuring exact duration of batch processing, as well as precise temperature and pressure control on such applications as hosiery dye machines, canners' retorts, vulcanizers, etc. For use on maker's "Full-scope" Recording Controllers.

Features—Easy operation and adjustment. Timing begins only when set point has been reached. To facilitate timing of successive batches of same duration, a "stop" is furnished on timing mechanism dial. With this "stop" set at desired timing period, pointer can be quickly spun to "stop" and the starting operation speeded up.

Operation—Timing process is manually started by adjusting the instrument for desired timing period. With this new feature, timing automatically starts—not immediately—but when the apparatus reaches the set point of controller. Length of time required for this set point to be reached makes no difference in operation of the timing mechanism. At end of desired period, timing mechanism automatically terminates the process.

TAYLOR INSTRUMENT COMPANIES, Dept. EP, Rochester, N. Y.

When inquiring specify EP2098 . . . see information request blank, pgs. 16-17



Comparator-Densitometer

Automatic Motor Scanning of Spectral Line



Uses—For accurately and speedily projecting a spectrogram on a viewing screen, and enabling positive spectral lines identification of up to 70 elements. Spectrograms may

be correctly interpreted for qualitative and accurately read for quantitative spectro-chemical analysis.

Features—Instrument is not sensitive to building vibrations and not affected by external light. Qualitative and quantitative analysis are combined. No need for marking plates. Requires no long warm-up period. Scattered light error is eliminated. No focusing is required as spec-

tral lines are permanently in focus with densitometer slit. There is no battery to maintain.

Operation—Density of any spectral line may be measured by pressing a control button which starts automatic motor scanning of spectral line. Density of spectral line is read from scale of meter in terms of percentage of light transmission. Principle employed by instrument to measure light transmission is to actually lay the slit of densitometer on the emulsion side of the photographic plate and move the slit over spectral line. Light passing through spectral line enters slit and then falls on a stable vacuum photo-cell, the output of which is amplified by a two-stage compensating amplifier and actuates a quick reading, large scale micro-ammeter.

Description—Density range is from 0 to 2. Variation in transmission of plates is quickly compensated for by adjusting knob. Spectrograms to be analyzed may be photographed on either 2" x 10" or 4" x 10" plates. With mirrors in the projection system, 34" optical path is obtained which gives magnification of 21X on the screen. Unit is housed in cast aluminum housing. Light source consists of a pre-focus 250 watt projection lamp; entire unit is cooled by motor driven blower. Size is 28" high, 27" wide and 28" long. Power used is 110 volts, 60 cycle, single phase, 250 watts.

HARRY W. DIETERT CO., Dept. EP, 9330 Roselawn, Detroit, Mich.

When inquiring specify EP2099 . . . see information request blank, pgs. 16-17

Sound Level Meter & Vibration Tester

Sound Sensitivity Range From 55 to 125 Decibels



Uses—For industrial sound surveys, vibration tests on machinery, etc.

Features—Each instrument is accurately hand calibrated and guaranteed within 2 db. Unit is portable, light weight, with self-contained batteries. Range of plus 50 to 125 db covers all usual sound measurements. Uses A. S. of A. response curve of equal loudness. Low cost.

Description—Instrument indicates sound intensity directly on scale calibrated in decibels. Sound pick-up is accomplished with a piezo-electric crystal microphone of non-directional ball type. Output of microphone goes through battery operated amplifier to indicating meter. Batteries give normal 300 hour service. Cannot close lid of case while current is being consumed. Lever action switch on front panel permits instant checking of battery voltages with indicating meter. Indicating meter face is 4" wide; calibrated plus 5 and minus 5 db from center zero level position. Direct reading in steps of one decibel each over entire range. Size is 9" wide, 6½" high and 12½" deep; weighs 10 lbs.

THE BODAR CO., Dept. EP, 2642 South Michigan Ave., Chicago, Ill.

When inquiring specify EP2100 . . . see information request blank, pgs. 16-17

CONNELLY MANOMETERS

**HAVE
UNBREAKABLE TUBES
Easily cleaned**



Stop manometer breakage. Connelly Heavy Duty Manometers with unbreakable plastic tubes are the answer. Drop them on the floor—toss them in with your tools—treat 'em rough—they won't break. New style quickly cleaned by unscrewing valve and inserting brush.

These INEXPENSIVE Manometers are precision made in a wide variety of sizes and styles. Built-in valves retain fluid when not in use. Manometers will withstand 100 lbs. pressure. HIGHER PRESSURE AVAILABLE ON SPECIAL ORDER. Easy reading etched metal scale is zero adjustable.

Send for bulletin.



CONNELLY

**IRON SPONGE &
GOVERNOR CO.
CHICAGO, ILL. — ELIZABETH, N. J.**

When inquiring specify EP2101 . . . see information request blank, pgs. 16-17

**HERE'S WHERE YOU
need READABLE
WESTON
gauge-type
THERMOMETERS**



In the dark corners . . . as well as on lines or equipment high overhead . . . you'll save time and insure more accurate readings with WESTON Thermometers. Their large, gauge-type scales are readable even a good distance away. And WESTON's rugged, all-metal construction provides other worthwhile advantages. Breakage is reduced to a minimum . . . temporary overtemperatures are readily absorbed without damage or impairing accuracy . . . corrections are never necessary regardless of stem length. WESTON gauge-type Thermometers are available in both straight and angle forms, in diameters, stem lengths and ranges essential for chemical plant service. Be sure to send for catalog, Weston Electrical Instrument Corporation, 586 Frelinghuysen Avenue, Newark, New Jersey.

WESTON

FOR OVER 52 YEARS LEADERS IN ELECTRICAL MEASURING INSTRUMENTS

LABORATORY STANDARDS · PRECISION D.C. & A.C. POTENTIOMETERS · INSTRUMENT TRANSFORMERS · SENSITIVE RELAYS · D.C. & A.C. THERMO-STATS · BOARD & PANEL INSTRUMENTS · SPECIALIZED TEST EQUIPMENT · LIGHT MEASUREMENT & CONTROL DEVICES · EXPOSED METER · VIBRATION INSTRUMENTS · ELECTRIC THERMISTERS · DUAL THERMISTERS

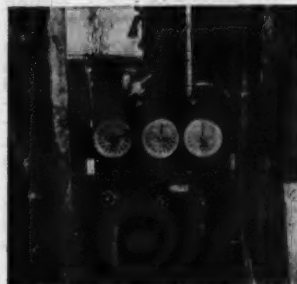
When inquiring specify EP2102 . . . see information request blank, pgs. 16-17

METERS

MODERNIZE AND CONTROL THE HANDLING OF LIQUIDS AND GASES IN INDUSTRY

Wherever liquid or gas is used in a plant, a saving can be made through the installation of meters. They provide the accurate cost information so necessary for today's operations and prevent leaks or waste. They replace slow, uncertain methods or wild guesses with accurate records instantaneously available. Furthermore, the use of meters will improve the control in the manufacture of many products. The use of too much material is wasteful, too little will result in an inferior product. It is only with meters that exact control can be maintained over liquids and gases.

As the World's greatest meter manufacturer, making the only complete line of liquid and gas meters as well as gas pressure regulators, the Pittsburgh Equitable Meter Company is in a position to intelligently and unbiasedly recommend and quote on any industrial measurement requirement.



PITTSBURGH METERS MEASURING SOLUTIONS IN TANNING PLANT

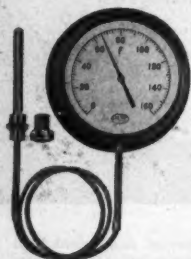
Bulletin M-704, entitled "Industrial Metering", has been compiled to point out the many and diverse applications for meters in industry. A copy will be mailed you upon request.

PITTSBURGH EQUITABLE METER CO.
402 NORTH LEXINGTON AVE., PITTSBURGH, PA.

When inquiring specify EP2103... see information request blank, pgs. 16-17

MERCURY-ACTUATED INSTRUMENTS

Dial Thermometer



A mercury-actuated Dial Thermometer has now been designed that is the last word in accuracy and quick-reading. It is designed to give many years of satisfactory service. Stainless-steel flexible tubing connection and bulb are standard, at no extra cost. All standard ranges: -40 to 1000°F. (550°C). Write for Bulletin #1500.

Recording Thermometer

After proving its superiority in many tests, this mercury-actuated Recording Thermometer is guaranteed to be extremely accurate and sensitive and to give many years of service. Stainless-steel flexible tubing connection and bulb are standard, without extra cost. All ranges: -40 to 1000°F. (550°C.) Has many exclusive features. Write for Bulletin #1300.



THE PALMER CO. Mfgs.

Thermometers: Recording, Industrial, Laboratory and Dial.
2519 Norwood Ave., Cincinnati, Norwood, O.

Can. Plant: King & George Sts., Toronto.

When inquiring specify EP2104... see information request blank, pgs. 16-17

Control Instruments (Con.)

Potentiometer-Pyrometer

Only One Balancing Operation Needed for Each Reading On Scales Below 0-400 Deg. F.



Uses — Applications in industrial, laboratory, electrical and moving vehicle temperature reading. Also designed for testing permanently installed temperature measuring and controlling equipment.

Features — With scales of 0-400 deg. and higher, once balanced and adjusted, instrument re-

quires no further balancing operation and is read thereafter as a deflection instrument. Light weight, portable—weighs 5¼ lbs. No standard cell is used, circuit requiring only flashlight cell. Accuracy is ½ to 1% total scale deflection. Automatic cold junction compensation inside the case, thus no adjustment need be made for room temperature changes. Instrument is independent of thermocouple resistance (within large limits), permitting use of small thermocouples where other temperature sensitive elements would be too slow, too large or too fragile.

Description — Double-pivoted galvanometer has 4¼" pointer with only tip showing below scale of indicating instrument. Instrument can be used under ambient temperature conditions of minus 40 deg. to plus 120 deg. F. The 6¼" temperature scale may range from minus 50 deg. to plus 50 deg. F. up to 0-3000 deg. F. Each scale drawn to customer's requirements. Thermocouples are readily replaced. Model 70-PO case is mahogany—6½ x 7½ x 4½ inches. Single or double scale models available.

J-B-T INSTRUMENTS, INC., Dept. EP, 441 Chapel St., New Haven, Conn.

When inquiring specify EP2105... see information request blank, pgs. 16-17

Plastic Gauge Cover

Plastic Cover Prevents Flying Glass

Uses—As a safety precaution for gauges of various types and sizes.

Features — Covers eliminate all possibilities of injury to workers from flying or broken gauge glass. Maker states that increased visibility and readability result.

Description—"Dura-front" covers are molded crystal-clear plastic with a tensile strength of 5,000 pounds and a compression strength of 15,000 pounds. Covers are available in 3½", 4½" and 6" sizes and can be added to any plastic (phenol case) gauge now in service.

MANNING, MAXWELL & MOORE, INC., Ashcroft Gauge Div., Dept. EP, Bridgeport, Conn.



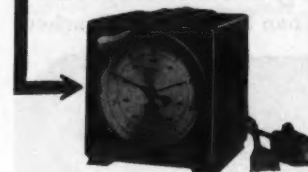
When inquiring specify EP2106... see information request blank, pgs. 16-17

Now You Can "Clock"

SCIENTIFIC and INDUSTRIAL TESTS

with Split-Second Accuracy

WITH
STANDARD
ELECTRIC
**STOP
CLOCK**



The Standard Electric Stop Clock eliminates all chance of human error — measures time lapses down to 1/200th of a second. This split-second accuracy is efficient in timing fast operating relays, circuit breakers, mechanical operations. Slower models for viscosity tests, chemical determinations and similar applications. Standard Electric Stop Clocks are ruggedly built, trouble-free. Easy to use and read. Thirty day free trial. For literature, prices, write Dept. N.

THE STANDARD ELECTRIC TIME COMPANY

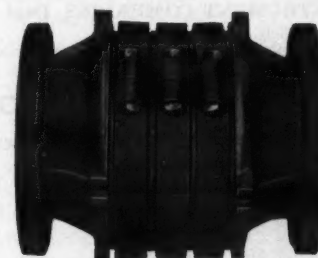
Springfield, Mass... Branch Offices in Principal Cities

"STANDARD MAKES EVERY SPLIT-SECOND COUNT"

When inquiring specify EP2107... see information request blank, pgs. 16-17

ABSORB EXPANSION in Process Lines

compactly and without maintenance



Use BADGER Corrugated Type Expansion Joints

We say "compactly" because BADGER Expansion Joints take up no more space on a pipe line than the average fitting. They are particularly ideal for lines in tunnels or in cramped quarters. And this compactness is economical, too, when insulation is necessary. We say "without maintenance" because the BADGER Expansion Joint does not use packing, hence requires no servicing.

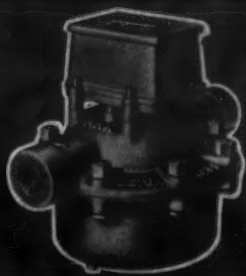
For conditions that would attack copper, we can supply stainless steel expansion joints. Write for descriptive bulletin.

E. B. BADGER & SONS CO.

75 PITTS ST., BOSTON, MASS.

When inquiring specify EP2108... see information request blank, pgs. 16-17

COST CONTROL begins with ACCURATE METERING



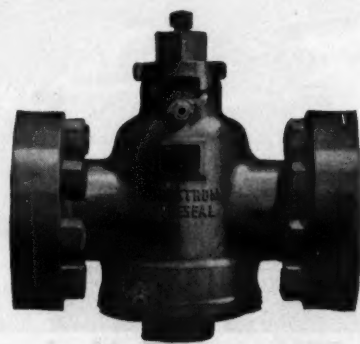
Use EMPIRE METERS and you can be sure that your figures are right. Empire Meters will detect shortages . . . measure the precise number of gallons delivered, produced, or consumed . . . or proportion ingredients EXACTLY in blending and processing operations. In many cases large savings can be effected by means of Empire metering.

Empire Meters will give you dependably accurate service, for a maximum length of time, at moderate cost. Bulletin 621 tells all about them . . . and tells you how to choose the best meter for your particular requirements. Send for it!

NATIONAL PERFORMANCE PROVED METERS

National Meter Company, 4295 First Avenue, Brooklyn, N. Y.

When inquiring specify EP2105 . . . see information request blank, pgs. 16-17



NORDSTROM MERCHROMED VALVES

for extreme conditions of
temperature, corrosion and erosion

Merchroming is a process in which a special welded coating is applied to the rotating, frictional surfaces of the valve plug and its contacting body. Merchroming provides a coating of extreme hardness, corrosion- and erosion-resistant, capable of maintaining its properties at temperatures as high as 1000° F. No galling or scoring. Merchroming can be applied to various types of Nordstrom Lubricated Valves, including Multiports. Ask for new Bulletin featuring Merchroming.

MERCO NORDSTROM VALVE CO.

Main Office; Pittsburgh, Penna.
600 Lexington Ave.

When inquiring specify EP2110 . . . see information request blank, pgs. 16-17

Brine Testing Set Has Sharper, More Permanent Color Standards

Uses — For testing liquids within a range of 5 to 10 pH and increments of ½ pH unit, and for specific gravity determination between 1.05 and 1.25. For testing pH of treated water for ice making to prevent excessive ice breaking; to lengthen life of condenser tubes or coils by controlling condensing water in cooling towers, spray ponds, evaporative condensers, etc.

Features—Develops sharper, more permanent color standards than former models. Has small, convenient comparator block. Provision is made for specific gravity determinations. Phenolphthalein is added for quick checks and to determine if samples out of the pH range of set are acid or alkaline.

Description—Set uses colorimetric method with universal indicator. Has 11 color standards covering 5 to 10 pH range in ½ pH increments. Arrangement is provided for compensating colors in testing colored liquids such as dichromate treated brine. Set has, besides 11 color standards and bottle of indicator, bottle of phenolphthalein, 3 test tubes, a minus 30 deg. F. to plus 120 deg. F. test thermometer, 1" by 6" glass cylinder, and hydrometer with specific gravity range of 1.05 to 1.25 (which covers range of calcium and salt brines). Wood case has dull nickel hardware.

YORK ICE MACHINERY CO., Dept. EP, York, Pa.

When inquiring specify EP2111 . . . see information request blank, pgs. 16-17

Feed Water Level Controller

Accelerator Attachment Increases Valve Motion
Uses—For maintaining precise control of boiler feed water.

Operation—Small stream of water is fed into control tube at its hot end, increasing valve motion through changing the temperature of the entire tube by positive volume control. Cooling is accomplished through extraction of heat from the tube.

Features—New accelerator attachment to controller permits blowing control tube without throwing apparatus out of adjustment. Thus, simple method is provided for cleaning control tube of scale or other accumulations, regardless of feed water temperature. Only few seconds required to wash the line. Controller can be flushed in few seconds without disturbing water level in boiler. Increased sensitivity obtained by use of fins on lower end of thermostatic tube. Unit has audible signal system — whistle or an electric alarm — for use if boiler pump should fail, or pump packing become lodged under valve.

Description—Cooling water, taken from feed valve in upstream side, has full differential pressure to force it into tube. This differential varies with the opening of feed valve. Small filter is incorporated in line between tap-in on feed valve and the accelerator valve. Back wash valve is provided through which filter can be washed and freed of scale, etc. Movement of operating mechanism is inevitable when water level rises or falls in tube.

J. A. CAMPBELL CO., Dept. EP, 645 East Wardlow Road, Long Beach, Calif.

When inquiring specify EP2112 . . . see information request blank, pgs. 16-17

a continuous record of pH values with a GLASS ELECTRODE

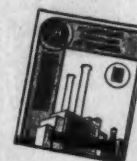


The Cambridge pH Recorder offers many advantages. It operates from either 25 or 60 cycle lines thus eliminates nuisance and limitations of batteries. The vapor-tight cases permit use under adverse conditions. Sampling point may be as much as several hundred feet from the recorder, to which it is connected with only an electric cable. These and many other features make the Cambridge pH Recorder the ideal instrument for Power Stations, Oil Refineries, Water and Sewage Treating Plants, Textile Mills, Sugar Refineries, Paper Mills and other process industries.

Send for List No. 910T

Typical Installation

CAMBRIDGE THERMIONIC pH RECORDER



CAMBRIDGE INSTRUMENT CO., INC.

3732 Grand Central Terminal

New York, N. Y.

When inquiring specify EP2113 . . . see information request blank, pgs. 16-17

FOR THE LIQUIDS YOU HANDLE —

It Pays to Know



For accurate measurement SACTO, the world's most widely used name.

METERING

Many types of meters for precise flow measuring and control — all available.

FILTERING

Pressure, self-cleaning and gravity types for oil, beverages, and many other liquids.

PROPORTIONING

Proportioning systems for compounding and blending liquids. Accurate . . . positive.

DISPENSING

Hand type self-measuring pumps, electric motor pumps, and blending systems of many types.

LUBRICATING

Complete oil-lubrication systems, oiling appliances, cooling oil systems, etc.

FILLING

Manual or automatic non filling units, heated fillers . . . all with Sacto meter accuracy.

BOWSER

LIQUID CONTROL SPECIALISTS SINCE 1885

When inquiring specify EP2114 . . . see information request blank, pgs. 16-17

The name that, for fifty-six years has meant efficiency, in handling industrial liquids. A wide range of standard or special equipment is at your disposal. Check the list at the left—then write for details.

S. F. BOWSER & CO., Inc.
1365 Creighton Ave. E.
FORT WAYNE, INDIANA

Combination storage and dispensing units for oils, paint oils and other liquids mean cleanliness and safety.



Prepare for NATIONAL DEFENSE PRODUCTION WITH ADEQUATE AND EFFICIENT MATERIALS HANDLING EQUIPMENT



1. Twin Wheel Steer Tractor Equipped with Pneumatic Tires. For Outdoor and Indoor Trailer Hauling Service.

"AUTOMATIC"



2. For Single Barrel Pick-up and Storage Plus Motorized Tilting Winch: Feature for Dumping Skids or Boxes. Ideal for Chemicals, Powders, Etc.



3. For Steel Drum Pick-up and Storage. Light Duty Fork Truck with SPECIAL Fork Attachment—Capacities, 1000 and 2000 Lbs.

AUTOMATIC TRANSPORTATION COMPANY

Div. of the Yale & Towne Mfg. Co.

119 W. 87th Street

Chicago, Illinois

WHEN YOU BUY TRUCKS — *Ask* AUTOMATIC

"AUTOMATIC" has the only complete line of "Electric Propelled" equipment from which to recommend the type and capacity best suited to your needs. Then, too! Each "AUTOMATIC" is designed and perfected for its specific job with the latest engineering features, offering production tools to do your job reliably at lowest cost. Whether it's travel—lift or maneuvering you will have the satisfaction of knowing every movement is being performed with precision, efficiency, and utmost speed with safety. You'll know that with "AUTOMATICS" on the job your materials handling will be accomplished expertly and economically as can only be done with "Electric Propelled" equipment.



Remember now is the time to make your check-up without obligation, so write, phone or wire for an "AUTOMATIC" representative to discuss your materials handling problems.



When inquiring specify EP2115... see information request blank, pgs. 16-17

Control Instruments (Con.)

Combustible Gas Meter

"Explosimeter" Gives Immediate Response With "One-Hand Operation"

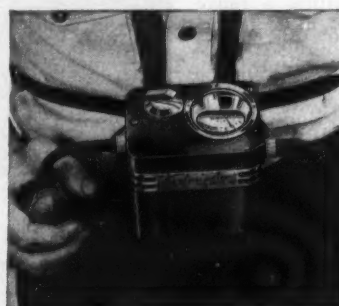
Uses — For accurately checking concentrations of combustible gases.

Features — "One-Hand Operation," leaving other hand entirely free to handle sampling line or probe. Batteries are entirely isolated from working parts of instrument — no exposure of working parts when batteries are changed; no possibility of electrolyte from discharged cells affecting electrical controls. Signal bar on single control knob is raised when current is on, and drops flush when current is switched off, thus preventing user from leaving instrument with current on.

Description—Light weight unit, compactly built, has a simplified electrical circuit with a single filament and single control knob. Unit uses standard flashlight batteries. Meter gives immediate response and positive reading with second squeeze of bulb (5 ft. sampling line). Flow system is cast integral with case, without tubing or connections to leak, and a built-in filter chamber is provided to trap dust and moisture. Filter chamber will also accommodate a charcoal cartridge for proper differentiation between illuminating gas and condensable, combustible vapors such as gasoline. Single filament has normal useful life of several thousand tests, but spare is included in set; may be changed easily as light bulb.

MINE SAFETY APPLIANCES CO., Dept. EP, Braddock, Thomas & Meade Sts., Pittsburgh, Pa.

When inquiring specify EP2116... see information request blank, pgs. 16-17



Electric Transmission Instruments for Measurement and Control

Illustrated folder, 4-pages, describes this system for transmitting measurement and control between two separated points. In each installation shown, transmitter is located 1½ to 4 miles from receiver. System is for conditions involving temperature, pressure, flow, time-motion, liquid level or other variables. Final page discusses explosion-proof models. Bulletin DMF 797 is available.

FOXBORO CO., Dept. EP, Foxboro, Mass.

When inquiring specify EP2117... see information request blank, pgs. 16-17

Laboratory Thermometers & Hydrometers

Effective photographs illustrate this 16-page catalog for many types of thermometers and hydrometers. Price and specifications are included with temperature conversion tables, Baume-Specific gravity conversion table, etc. Catalog No. 1100 B is available on request.

C. J. TAGLIABUE MFG. CO., Dept. EP, Park & Nostrand Aves., Brooklyn, N. Y.

When inquiring specify EP2118... see information request blank, pgs. 16-17

Air-Operated Controllers

Air-control instruments and their applications are discussed in this catalog. Isometric drawings explain three basic types of control available. Various models for control of temperature, pressure, flow, liquid level, draft, humidity and pH value are fully illustrated and described. Catalog No. 4050 sent upon request.

BRISTOL CO., Dept. EP, Waterbury, Conn.

When inquiring specify EP2119... see information request blank, pgs. 16-17

HAUL YOUR LOADS THE MODERN WAY ON GENERAL JUMBO JRS.



The current demand for increased

speed and efficiency in all phases of plant operation has resulted in steadily growing use of General Jumbo Jr. tires. Industrial trailers such as the one shown above, a product of The Mercury Mfg. Co., of Chicago, carry loads of all types easily and smoothly, with less destructive jarring, because they are equipped with this pioneer tire-tube-wheel combination. The wide range of sizes and capacities will meet every factory hauling requirement. Write for new catalog and for list of manufacturers supplying equipment on Jumbo Jrs.

THE GENERAL TIRE AND RUBBER CO. AKRON, OHIO



TIRE
TUBE
WHEEL

Tires 8" to 24" overall diam. Load cap. 180 lbs. to 1500 lbs. per tire. 2-4 and 6-ply with separate inner tubes and heavy duty wheels.

GENERAL JUMBO JR. INDUSTRIAL BALLOON TIRES

When inquiring specify EP2120... see information request blank, pgs. 16-17



Therm-O-flake COATING

SUPERIOR HIGH TEMPERATURE INSULATION

Keeps heat inside, with a coating of plastic insulation. One inch thickness equivalent to about nine inches of fire brick wall in insulation value.

More economical in cost and installation, on existing furnaces, than walls of insulation brick.

Easily applied and largely reclaimable for re-use, after removal.

Most widely used material for high temperature insulation, up to 2000°F.

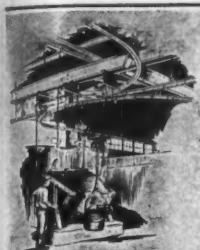
Write for Information and Prices

Other Therm-O-flake Products
Made from Exfoliated Vermiculite

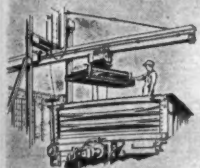
Granules, Brick, Block, Concrete

When inquiring specify EP2121... see information request blank, pgs. 16-17

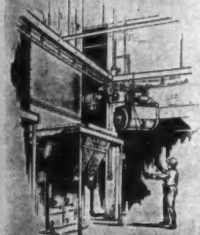




Hand Operated



Electric Hoist



MonoTractor Drive

Save your Man-power!

Skilled labor is expensive. Why waste it in handling operations. A simple overhead monorail system to perform the "lift" and "Carry" jobs will show an immediate return in saved man-power.

Standard parts assemble into complete systems to meet special requirements so that American MonoRail engineers are able to solve many problems without excessive cost. Let them survey your requirements at no obligation.

Write for copy of "Blue Book" showing hundreds of installations.

AMERICAN MONORAIL

13109 Athens Avenue
CLEVELAND, O.

When inquiring specify EP2122... see information request blank, pgs. 16-17

High Quality PIPE STRAINERS

1. ALL TYPES. Y-types and basket types. Seven standard and numerous special patterns. Wide variety of screens.

2. ALL SIZES. Stock sizes from 1/2" to 14". Larger sizes on order. For pressures to 1,500 lbs. or higher.

3. ALL MATERIALS. Davis regularly fabricates strainers from a wide variety of special materials for handling corrosive fluids and gases.

4. PRECISION CONSTRUCTION. Same quality workmanship as in finest Davis product. All desirable design features. Prices and full information on request.

DAVIS
REGULATOR CO.
2562 S. Washtenaw Ave.
Chicago, Illinois

When inquiring specify EP2123... see information request blank, pgs. 16-17

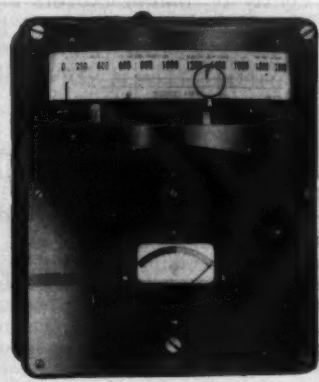
STAINLESS STEEL
SEMI-STEEL • STEEL
BRONZE • MONEL •
TIN PLATED • CAD-
MIUM PLATED •
GALVANIZED



Electronic Pyrometer Controller

Has No Moving Parts In Control Circuit

Features — Millivoltmeter movement pointer not retarded or engaged at any point within its normal operating range, thereby leaving it free to continuously indicate temperature under control. Controller is extremely sensitive to temperature changes at thermocouple. Moving parts in control circuit — such as motors, depressor bars, toggle switches and open contacts — are completely eliminated.



Description — Control is accomplished by means of electronic circuit, using a single high-output vacuum tube of the all-metal type. Tube has life of several years. Milliammeter on front of instrument indicates condition of control circuit at all times. Entire operating mechanism of the Millivac relay is totally enclosed in a vacuum. Measuring unit is equipped with cold-end compensator to insure high accuracy. Bulletin 544 gives complete details. **BRISTOL CO., Dept. EP, Waterbury, Conn.**

When inquiring specify EP2124... see information request blank, pgs. 16-17

Constant Temperature Laboratory Equipment

24-page bulletin contains detailed specifications and performance data on a wide range of thermostatically controlled, electrically heated constant temperature laboratory equipment. Applications discussed include accelerated aging of materials; baking and finishes; dehydrations to determine moisture content; disintegration tests; and preheating of materials such as plastics. Emphasis is laid upon laboratory treatment of asphalts, paper, pulp and rubber. Bulletin 315 is available.

PRECISION SCIENTIFIC CO., Dept. EP, 1750 N. Springfield Ave., Chicago, Ill.

When inquiring specify EP2125... see information request blank, pgs. 16-17

Liquid Level Meters

8-page technical bulletin covers six different styles of mechanical and electric operated liquid level meters. Application drawings and technical data are arranged in sections devoted to each of various instruments. Electric operated types for remote service include float, differential pressure and bourdon spiral systems. Potentiometer type meter is a new design. Publication 2990 is available upon request.

COCHRANE CORP., Dept. EP, 17th & Allegheny Ave., Philadelphia, Pa.

When inquiring specify EP2126... see information request blank, pgs. 16-17

Electronic Devices for Industry

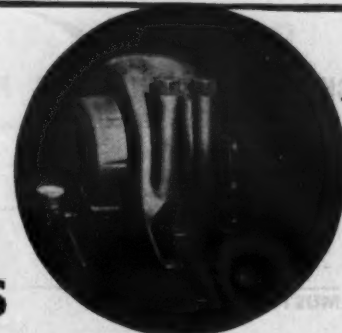
Twenty-page booklet briefly lists some of the more important vacuum-tube apparatus and describes the application and method of operation. Deals with such devices as phototubes, recording spectrophotometer, pyrometers, gas-discharge and high-vacuum electronic tubes, ignition rectifiers, automatic arc-welding equipment, etc. Booklet is available on request.

GENERAL ELECTRIC CO., Dept. EP, Schenectady, N. Y.

When inquiring specify EP2127... see information request blank, pgs. 16-17

To secure **EQUIPMENT PREVIEW** for your key men, turn to 'request slip'... page 16 and 17.

DODGE- TIMKEN BEARINGS



SAVE THIS PLANT MONEY

In a large sulphuric plant in Tennessee — Dodge-Timken Pillow Blocks are installed on fans handling sulphur dioxide gas and flanged units on acid pumps—they have been operating at 750 R.P.M. over five years for periods of ten months on 24-hour service without shutdowns. Maintenance has been negligible and an impressive power saving made. Specify Dodge-Timken Bearings for dependable service.

DODGE MANUFACTURING CORPORATION
MISHAWAKA, INDIANA, U. S. A.

DODGE
MISHAWAKA



*THE 30,000 HOUR LINE OF DODGE ROLLING BEARINGS

When inquiring specify EP2128... see information request blank, pgs. 16-17

87% OF THE OPERATING
INDUSTRIES LISTED ON THE
NEW YORK STOCK EXCHANGE
USE
POMONA Water Lubricated PUMPS

When American industry expresses such outstanding preference for one make of pump, that equipment must have inherent qualities well worth your investigation. Pomona Pump Co., 129 Broadway, New York, N. Y. Plants at St. Louis, Mo., and Pomona, Calif. Pioneers in the manufacture of Water Lubricated Turbine Pumps for every water-lifting application in Industry, Mining, Transportation, Agriculture and Municipalities.

Established 1902

When inquiring specify EP2129... see information request blank, pgs. 16-17

CHECK YOUR FILTERING PROBLEM HERE!

IS THE SLURRY thick?.....		thin?.....
hot?.....		cold?.....
its volume large?.....		small?.....
IS THE SOLID coarse?.....		fine?.....
crystalline?.....		amorphous?.....
does it need washing?.....		
MUST YOU FUSS WITH		
filter cloths?.....	other filter media.....	
vacuum?.....	other auxiliaries?.....	

Any way it lines up the Bird Centrifugal Solid Bowl Filter will likely give you better results at lower cost. It is built in five sizes to give you from a few hundred pounds to 20 tons or more of dry solids per hour. It requires no cloths, screens or other filter media, no vacuum or other auxiliaries. It takes little power, small space.



Ask us to prove it's the one best solution to your filtering problem. Write—

BIRD MACHINE COMPANY • South Walpole, Mass.

BIRD CENTRIFUGAL FILTERS

When inquiring specify EP2130... see information request blank, pgs. 16-17

Increased Volume doesn't guarantee Increased Profits —but profit and volume increase together when you eliminate load-handling waste.



Elwell-Parker has built Trucks, Tractors and Cranes exclusively since 1906—90% of them are still in operation. Whether you are handling normal or peak loads, experienced Elwell-Parker Engineers will survey your plant and help you select one Truck or a System that will quickly pay for itself out of the savings it creates for you. The Elwell-Parker Electric Company, 4239 St. Clair Avenue, Cleveland, Ohio.

ELWELL-PARKER Power Industrial Trucks

When inquiring specify EP2131... see information request blank, pgs. 16-17

NEW LITERATURE

The following literature has been issued recently by manufacturers of the products discussed and is available to process production executives on request. Address requests to the publishers by using handy request form, pages 16-17, or write to the manufacturers direct.

Engineering Data On Valves, Pipe Fittings, And Fire Hydrants

24-page, cloth-bound, letter-size catalog gives comprehensive presentation of data on bronze and iron-body valves for low, standard and high pressures; standard bronze and malleable-iron screwed fittings, standard cast-iron flanged fittings and flanges; fire hydrants and valve specialties. Recommendations are made for selection of valves and fittings; suggestions for operation, care and maintenance of valves, and much useful engineering data such as tables showing discharge of air through high-pressure orifices, metric conversion table, properties of saturated steam, pipe expansion, table of water heads and equivalent pressures, etc. Many large-size photos complete this well-handled catalog. Catalog No. 63 is available on request.

KENNEDY VALVE MFG. CO., Dept. EP, Elmira, N. Y.
When inquiring specify EP2132... see information request blank, pgs. 16-17

Twelve Synthetic Alcohols

Folder is one of series to present brief and concise information on industrial organic chemical families. Present folder describes 12 members of alcoholic group—from methanol to heptadecanol—giving uses of each. Convenient table presents their principal properties—boiling points, specific gravities, vapor pressures, flash points and various solubility data. Folder is available.

CARBIDE & CARBON CHEMICALS CORP., Dept. EP, 30 East 42nd St., New York, N. Y.
When inquiring specify EP2133... see information request blank, pgs. 16-17

Corrosion Resistant Chemical Equipment

Forty-six-page-and-cover booklet describes the company's "Haveg" material used for pipe and fittings, valves, fume ducts, cylindrical tanks, covers and outlets, towers and accessories, cold setting acid resistant cement, etc. Many photos, tables, charts and drawings give the complete picture of these products and their varied uses. Catalog is available on request.

HAVEG CORP., Dept. EP, Newark, Delaware.
When inquiring specify EP2134... see information request blank, pgs. 16-17

Low Voltage Generators For Chemical Oxidation Reduction

Four-page, two-color descriptive folder contains information on low-voltage generators. Low voltage units have been extended to include 25,000 ampere machines at 6 volts and synchronous motors to 250 H.P. Folder is available.

BOGUE ELECTRIC CO., Dept. EP, 80 Glover Ave., Paterson, N. J.
When inquiring specify EP2135... see information request blank, pgs. 16-17

Thickeners, Clarifiers and Agitators

Attractive, 16-page booklet illustrates and describes various types of thickeners, clarifiers and agitators. Clearly written explanations, supplemented by many drawings and installation photos, provide an informative booklet. Applications suggestions are made with tables showing characteristics of various models—material handled, object, size of model to be used, etc. Booklet 31-C is available on request.

HARDINGE CO., INC., Dept. EP, York, Pa.
When inquiring specify EP2136... see information request blank, pgs. 16-17

REDUCE HANDLING COSTS



New DOENUT WHEELS

New Doenut Wheels will do a better job in your plant—and at a lower net cost. Doenuts handle manual loads with less than half the effort, double the work per man hour; preserve hard wood and concrete floors; reduce spillage and stop noise.

No matter how carelessly tire is allowed to run under-inflated, valve cannot be cut or damaged from "creeping." Punctures repaired without removing tire from wheel. Available in three sizes: 10" x 2.75"; 12" x 3.30"; 16" x 4.40".

Write for literature today explaining nature of your equipment.

MUSSELMAN PRODUCTS CO.
6324 ST. CLAIR AVE. CLEVELAND, OHIO

When inquiring specify EP2137... see information request blank, pgs. 16-17

STOP Liquid Splashes-Sparks Flying Particles—

with this
2-WAY DEFENSE PROGRAM

★ There is no "give" in this Cesco No. 750 General Utility Face Shield, which accounts for its ability to "take" and shunt off splashes, sparks and flying particles in the chemical process and metal fabricating industries. Extremely light in weight, with entire window metal bound for added strength and rigidity.



CESCO No. 750 FACE SHIELD

enables its wearer to proceed aggressively, confident of working with the utmost in face and eye protection and comfort.

CESCO No. 92 RESPIRATOR

EXACTLY what you need on operations where Type A, Silica, Lead and Nuisance Dusts endanger health and reduce working efficiency. Use this Cesco No. 92 Respirator with its 45 sq. in. filter area and COMFORT features suited to every climatic and working condition. Promotes much easier breathing... clear vision... activity!

Write for Descriptive Circulars, Prices and Full Details. No obligation. Act Today!

CHICAGO EYE SHIELD CO. 2337 Warren Bldg. Chicago • Illinois

When inquiring specify EP2138... see information request blank, pgs. 16-17

PROTECT VALUABLE MATERIAL in your plant with ACORN MESH ENCLOSURES

ACORN diamond mesh partitions are carried in stock section for immediate delivery. The strength of these heavy wire woven partitions give ample protection to stock rooms, tool rooms and experimental departments. Protect employees from danger spots such as switchboards and high speed machinery.



Easily erected and re-arranged.

In making plant enlargements or changes, investigate the economy advantages of Acorn Diamond Mesh partitions and guards. Also window guards, sky light guards and collapsible folding gates.

Write for complete catalog.

ACORN WIRE & IRON WORKS
5907 S. Lowe Ave., Chicago

When inquiring specify EP2139 ... see information request blank, pgs. 16-17

CHECK

and Double Check this
NEW SERVICE
SKID



Check These SteelWave Points Against Your Present Skid

- SteelWaves Are ...
- LIGHTER THAN WOOD
 - STRONGER THAN A WOOD
 - SKID OF EQUAL CAPACITY
 - CAN'T WARP OR BUCKLE
 - PERMANENTLY SPLINTER-FREE

Lighter, stronger, safer ... with less deflection under full load—than a wood skid of equal capacity. Atmospheric conditions can't cause SteelWave to swell, shrink, warp or buckle. It won't splinter from age, jamming, loading or impact. Rounded corners prevent injury to trucks, other equipment and passing loads. Note, too, how corrugations are streamlined to prevent accumulation of loose dust and make even hazardous cleaning effective. Write for details.

Ask for FREE Plant Survey

SERVICE CASTER & TRUCK CO., 790 N. Brownwood Ave., Albion, Mich. Eastern Factory: 490-32 Somerville Ave., Somerville, (Boston), Mass. Toronto, Canada: United Steel Corporation, Ltd., S. C. & T. Co. Division.

SERVICE

Materials Handling Units

When inquiring specify EP2140 ... see information request blank, pgs. 16-17

New Literature (Con.)

Handbook on Gaskets

Sixty-four-page handbook and catalog contains advanced engineering data and shows many new and improved products. Specifications and prices are given in detail. Many illustrations and concise descriptions make this handbook a time-saving reference. Catalog No. 53 is available upon request.

GOETZE GASKET & PACKING CO., Dept. EP, 36 Allen Ave., New Brunswick, N. J.

When inquiring specify EP2141 ... see information request blank, pgs. 16-17

Pulpwood Grapple

Three-color booklet shows many types of pulpwood grapples. Application photographs show unit being used in handling pulpwood in log form during processing. Other uses of product are suggested for handling used rubber tires or where material to be handled from pile is odd-shaped and hard to handle. 8-page booklet is available on request.

OWEN BUCKET CO., Dept. EP, 500 Breakwater Ave., Cleveland, Ohio.

When inquiring specify EP2142 ... see information request blank, pgs. 16-17

"Effect of Water Conditions on Selection of Pump Materials"

Four-page bulletin points out need for careful investigation of water conditions and presents factors in water that affect performance and service of pumping units. Effects of the various factors on different pump materials are discussed with particular reference to influence of pH value. Chart shows proper materials recommended for various pH ranges. Bulletin R-6108 is available upon request.

ALLIS-CHALMERS MFG. CO., Feedwater Div., Dept. EP, Milwaukee, Wis.

When inquiring specify EP2143 ... see information request blank, pgs. 16-17

Magnetic Disc Brakes

12-page bulletin offers comprehensive description, specifications formulas, and installation views of these magnetic disc brakes. Bulletin No. 604 is available.

STEARNS MAGNETIC MFG. CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP2144 ... see information request blank, pgs. 16-17

Heat-Treating Furnaces

Broadside describes furnace equipments which apply the Vapocarb-Hump Method to hardening, the Hump Method to drawing, and the Homo Method to tempering, nitriding and carburizing. Photographs are effectively used to feature this broadside. Broadside T is available.

LEEDS & NORTHRUP CO., Dept. EP, 4934 Stenton Ave., Philadelphia, Pa.

When inquiring specify EP2145 ... see information request blank, pgs. 16-17

Overhead Handling—Manual or Power Operation

Attractive, two-color broadside folder displays various applications of overhead material handling. Feature of the folder is clear-cut drawings indicating the eight major advantage points of manufacturer's equipment. These are supplemented by application photographs showing equipment in use in many types of plants. Folder is available.

AMERICAN MONORAIL CO., Dept. EP, 13109 Athens Ave., Cleveland, Ohio.

When inquiring specify EP2146 ... see information request blank, pgs. 16-17

Chemical Compositions of S.A.E. Steels

Card-folder lists chemical compositions of most S.A.E. steels and is available upon request for Technical Data Card No. 8.

BARCOCK & WILCOX TUBE CO., Dept. EP, 19 Rector St., New York, N. Y.

When inquiring specify EP2147 ... see information request blank, pgs. 16-17



Going to the
**NATIONAL
CHEMICAL
EXPOSITION?**
STEVENS HOTEL
Dec. 11, 12, 13, 14, 15

Presented by the Chicago Section
of the American Chemical Society

EXECUTIVES will attend this exposition to see what is new; seeking improvement of their processes and materials; to find more efficient and satisfactory machines; to make certain their plants are up-to-date in every respect.

CHEMISTS will attend this exposition — Research Chemists to translate ideas from other fields to their own — Control and Production Chemists to keep pace with the times on new methods, new instruments, new reagents and new equipment.

ENGINEERS will attend this exposition to see new developments in equipments and materials, and to learn the modern uses for them.

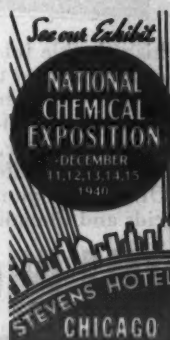
PURCHASING AGENTS will attend this exposition to compare quality specifications; to learn of new sources of materials and equipment; to gain a more comprehensive understanding of the chemical industry.

Write for program subjects of the National Industrial Chemical Conference

A limited amount of excellent
Exhibit Space is still available.
Address all inquiries to

Marcus W. Hinson

Exposition Manager
110 N. Franklin St.
Chicago, Illinois
Phone Franklin 2245



When inquiring specify EP2148 ... see information request blank, pgs. 16-17

A New MACHINE FOR CLOSING MULTI-WALL PAPER BAGS



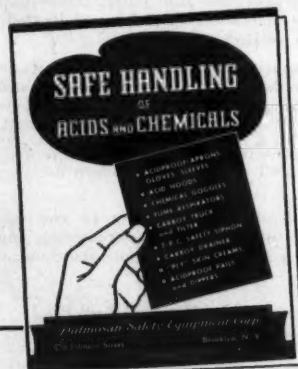
Style 80600-H

1. **BIG CAPACITY.** Designed to fit in with modern, high speed bag filling and weighing equipment.
2. **TAPE BOUND, LEAK-PROOF CLOSURE.** Tough crepe tape is automatically folded and sewed over top of bag.
3. **AUTOMATIC TAPE CLIPPER.** Makes neat packages.
4. **VERSATILE.** Closes bags in a wide range of sizes. Readily convertible for use on burlap or cotton bags. For full details write UNION SPECIAL MACHINE CO., 442 No. Franklin St., Chicago, Ill.

UNION SPECIAL

When inquiring specify EP2149 ... see information request blank, pgs. 16-17

IF YOUR WORKERS HANDLE ACIDS... CHEMICALS... CAUSTICS



WRITE FOR THIS SAFETY FOLDER

This valuable folder shows how to avoid accidents to workers exposed to Acids, Chemicals and Caustics. It illustrates and describes specially designed Aprons, Gloves, Sleeves, Hoods, Goggles, Respirators, Carboy Truck and Tilter, Carboy Siphon, Pails, Dippers, etc. Every item is safety-tested and dependable. **WRITE TODAY** for your free copy of "Safe Handling of Acids and Chemicals."

PULMOSAN SAFETY EQUIP. CORPORATION
Dept. EP, 176 Johnson St., Brooklyn, N. Y.

When inquiring specify EP2150 ... see information request blank, pgs. 16-17

New Literature (Con.)

"How To Choose A Steam Trap"

An effectively illustrated, 40-page booklet presents much information on such subjects as selection of steam traps; choosing proper size trap for unit heaters; valuable table for determining trap ratings at reduced pressures; various problems worked out with examples for selecting traps for steam jacketed kettles, autoclaves, submerged surfaces, steam mains and header drips, and other types of equipment; general notes on trap installation covering use of check valves with steam traps, test inspections, installation, operation methods, water seal or priming, maintenance, etc. Many useful tables and charts add to this book's effectiveness. Booklet No. 840 is available upon request.

V. D. ANDERSON CO., Dept. EP, 1954 West 96th St., Cleveland, Ohio.

When inquiring specify EP2151 ... see information request blank, pgs. 16-17

V-Belt Data Book

Data book of 170 pages supplies much information on use of V-Belts and requirements for many types of equipment such as electric refrigerators, water pumps, slicing machines, stokers and oil burners, etc. Conversion listings occupy another large section of booklet. Detailed specifications and listings are included. Booklet is available on request.

B. F. GOODRICH CO., Dept. EP, Akron, Ohio.

When inquiring specify EP2152 ... see information request blank, pgs. 16-17

Rubber Tired Wheels

Pocket-size booklet, about 4" x 8", shows many types of rubber tired wheels for industry. Scores of detailed photos show individual types and applications. Complete specifications are included with selection tables for securing right wheel for right job. Prices are indicated. Booklet is available upon request.

FRENCH & HECHT, INC., Dept. EP, 200 Farnam, Davenport, Iowa.

When inquiring specify EP2153 ... see information request blank, pgs. 16-17

Flexible Couplings

Complete price and dimensional data are included for these flexible couplings. Fully described is a new type—a horizontally-split aluminum casing. Simple selection tables and instructions for installation and lubrication complete this 12-page, illustrated booklet. Catalog No. 1845 is available on request.

LINK-BELT CO., Dept. EP, 307 N. Michigan Ave., Chicago, Ill.

When inquiring specify EP2154 ... see information request blank, pgs. 16-17

Selenium Rectifiers

8-page bulletin explains the principle of the selenium dry plate rectifier. Recommended circuit arrangements are detailed and illustrated with diagrams. Several types of these rectifiers for battery charging and D.C. power supply are illustrated and described as are various rectifier elements. Bulletin FI-3 is available.

FANSTEEL METALLURGICAL CORP., Dept. EP, North Chicago, Ill.

When inquiring specify EP2155 ... see information request blank, pgs. 16-17

Non-Metallic, Low Pressure Pipe Not Affected By Alkalies, Salts or Mild Acids

Attractive 12-page-and-cover booklet describes this Orangeburg "Alkacid" pipe for underground installation. At pressures not to exceed 15 lbs. per square inch. Many drawings and photos show proper methods of installing the pipe. Characteristics and physical properties, corrosion resistance and hydrostatic strength are clearly outlined. Complete specifications are given for pipe, bends and elbows, fittings, etc. Catalog 47-A is available upon request.

THE FIBRE CONDUIT CO., Dept. EP, 292 Madison Ave., New York, N. Y.

When inquiring specify EP2156 ... see information request blank, pgs. 16-17



A Great Little Pump at a Great Little Price!

If you have any small pumping job, here's your answer with **UTMOST ECONOMY!** Design is simple. Cost is small. Yet, like all other BLACKMER Rotary Pumps, this new DC has **AUTOMATIC** take-up for wear—renews itself as it runs—out-performs and outlasts other types.

DC Pumps can be easily mounted on your machines—driven as desired; or mounted separately and direct driven by Standard 1800 RPM Motors—no expensive reducing gears necessary. Sizes range from 1 to 20 GPM. You can pump any liquid.



CONSULT US FIRST ON ANY ROTARY PUMP PROBLEM

Write for **FREE Bulletin DC600** and our new **LOW PRICES!**

BLACKMER PUMP COMPANY
1740 CENTURY AVE., GRAND RAPIDS, MICH.

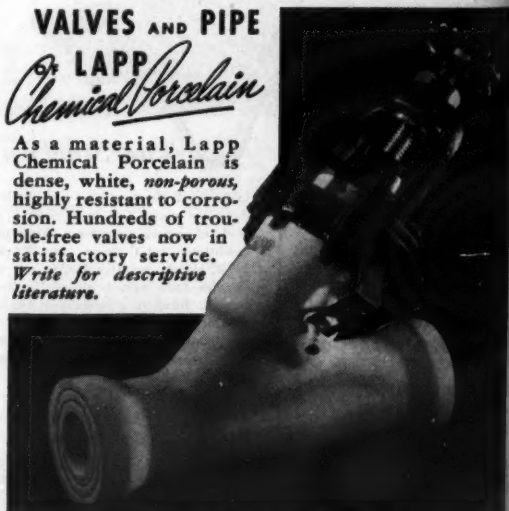
When inquiring specify EP2157 ... see information request blank, pgs. 16-17

"THE FIRST SATISFACTORY ANSWER TO THE PROBLEM OF HANDLING MANY CORROSIVE LIQUIDS..."

VALVES AND PIPE

LAPP Chemical Porcelain

As a material, Lapp Chemical Porcelain is dense, white, non-porous, highly resistant to corrosion. Hundreds of trouble-free valves now in satisfactory service. Write for descriptive literature.



VALVES • PIPE • RASCHIG RINGS

LAPP INSULATOR CO., INC.
(CHEMICAL PORCELAIN DIVISION)

920 GILBERT STREET LE ROY, NEW YORK

When inquiring specify EP2158 ... see information request blank, pgs. 16-17

Even the PALEST RESINS are safe in THIS REACTOR

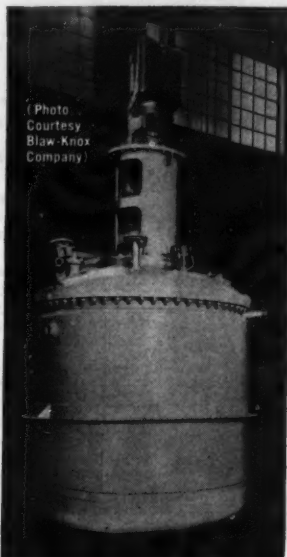
Important characteristics
of synthetic resins are
preserved by Nickel

More and more plants that process modern resins now use equipment of Nickel. The reasons? First: Even with the palest of resins, Nickel reactors assure reproducible, uniform results. Second: For construction of large equipment all the advantages of Pure Nickel are available at a fraction of the cost... through use of Nickel-clad steel. Write for "Nickel and Monel Equipment in the Manufacture of Synthetic Resin Surface Coatings."

THE INTERNATIONAL
NICKEL COMPANY, INC.
67 Wall Street New York, N. Y.

NICKEL

When inquiring specify EP2159... see information request blank, pgs. 16-17



(Photo Courtesy
Blaw-Knox
Company)

One of a group of 600 gallon Nickel-clad steel reactors equipped with Pure Nickel fittings, steel jackets, explosion proof motors, tested to 30 lbs. internal pressure and 60 lbs. in the jacket. Giving excellent service at one of the largest varnish plants.



Heat rises. McQuay Down Flow Unit Heaters are most efficient because they are located at the ceiling line. They reclaim wasteful "Stratified Heat" and force warmed air down to the working zone over a wide area. Other McQuay unit heaters include the new Radial Type, the Gas Fired Unit, the Cabinet Type, the Standard, and the Blower Types, both in suspended and floor models. McQuay Inc., 1615 Broadway Street, Minneapolis, Minnesota.

Write for catalog describing complete line of McQuay Unit Heaters

McQuay INC.
HEATING, COOLING,
AIR CONDITIONING
AND REFRIGERATION
EQUIPMENT

When inquiring specify EP2160... see information request blank, pgs. 16-17

New Literature (Con.)

V-Belt Drive Handbook

112-page handbook is packed with information and engineering data on V-belt drives. Featured are the copy-righted tables enabling drive users to select proper drives for given job. Included are data for designing V-drives according to 1940 revised ratings, data for replacing V-drives designed according to previous engineering standards, engineering and mathematical tables, etc. Installation photos show representative drive installations. Price information and specifications are given for many types. Catalog V-500 is available upon request.

PYOTT FOUNDRY & MACHINE CO., Dept. EP, 328 North Sangamon St., Chicago, Ill.

When inquiring specify EP2161... see information request blank, pgs. 16-17

Totally-Enclosed-Fan-Cooled Squirrel-Cage Motors

Totally-enclosed-fan-cooled squirrel cage motors from one to 200 H.P. are shown in a 4-page, illustrated folder. Photos and cut-away sectional sketches explain the new heat exchanger principle which lets in no outside air yet keeps internal windings from overheating. Bulletin 3105 is available upon request.

WESTINGHOUSE ELECTRIC & MFG. CO., Dept. EP, East Pittsburgh, Pa.

When inquiring specify EP2162... see information request blank, pgs. 16-17

Water Scale and Rust Removal

Twenty-page, pocket-size booklet contains many suggestions for use of this material (Oakite Compound No. 32) for removing hard water scales, rust and similar deposits. Photos and drawing show types of equipment, "before-and-after" examples, and suggested uses for the material. Booklet is available on request.

OAKITE PRODUCTS, INC., Dept. EP, 57 Thames St., New York, N. Y.

When inquiring specify EP2163... see information request blank, pgs. 16-17

Fire Extinguishing Systems

Eight-page bulletin contains some 24 photographs of fixed carbon dioxide extinguishing systems in various type of plants. Fifteen diagrams show typical installations on mixers, storage and dip tanks, generators, etc., together with engineering drawings of window closing devices, automatic damper and motor controls, etc. Bulletin J-508 is available on request.

WALTER KIDDE & CO., INC., Dept. EP, Bloomfield, N. J.

When inquiring specify EP2164... see information request blank, pgs. 16-17

Steel Flooring, Stair Treads, Etc.

Catalog shows several types of steel grating, stair treads, floor steel etc., with tables of safe loads and information on assembly and recommended fillers. Photographs and diagrams show products in detail. Bulletin No. 14-R is available.

WM. F. KLEMP CO., Dept. EP, 6601 S. Melvina Ave., Chicago, Ill.

When inquiring specify EP2165... see information request blank, pgs. 16-17

Post & Frame Type Stuff Pumps; Fan Pumps

Two-color, four-page folder gives specifications and photos of these pumps for the pulp and paper industry. Included are data on the stuff pumps of two types and fan pumps. Bulletin No. 506 is available.

NOBLE & WOOD MACHINE CO., Dept. EP, Hoosick Falls, N. Y.

When inquiring specify EP2166... see information request blank, pgs. 16-17

Washroom Planning Suggestions

Thirty-six-page booklet contains many illustrations of washfountains, multi-stall showers, drinking fountains, etc. Specifications and washroom planning suggestions are featured. Catalog 1941 is available upon request.

BRADLEY WASHFOUNTAIN CO., Dept. EP, 2257 West Michigan St., Milwaukee, Wis.

When inquiring specify EP2167... see information request blank, pgs. 16-17

INDUSTRY CHOOSES YALE!

Exclusive features
MAKE YALE ELECTRIC TRUCKS
the buy!

Sturdy spur-gear drive unit. Cam-O-Tactor controller, special drive wheels and equalizing brake—you get them all with Yale.

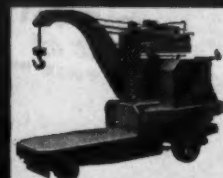
Whatever the need... whatever the load... there's a Yale Electric Truck ready to do the job with greater efficiency!

The trucks illustrated are representative of the range and capacity of Electric trucks that Yale offers industry. The complete line is illustrated in a new FREE catalog.

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Center-Control Tilt
Fork Truck—Capacities
up to 25,000 lbs.



Low-Lift, 6,000 lb. Capacity,
Electric Platform Truck with
2,000 lb. Capacity Crane.



High-Lift Electric Platform
Truck—Capacities up to
60,000 lbs.

THE YALE & TOWNE MFG. CO.
4530 Tacony Street, Philadelphia, Pa.

Please send me without obligation your new FREE
catalog showing the complete Yale Electric Truck line.

Name _____

Address _____

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ANY
OF THESE
OPERATIONS

Emulsifying
Contacting
Conditioning
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Hydrolyzing
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Regardless of shape
or size of vessel
PLUS A PORTABLE
"LIGHTNIN" MIXER

Gives you an efficient, low cost process. For
all liquids and fluids.

Send for Portable Catalog, B-65 and Side
Entering Catalog, B-66.

MIXING EQUIPMENT CO., INC.
1085 GARSON AVE. ROCHESTER, N. Y.

When inquiring specify EP2169... see information request blank, pgs. 16-17



regarding DRAINATORS on processing equipment

MR. E. F. THOMAS, progressive
president of
THIS MODERN PLANT

The H. J. McGRATH COMPANY
Packers of "CHAMPION BRAND"
QUALITY FOOD PRODUCTS
SINCE 1904
2301-15 BOSTON STREET
BALTIMORE, Md. U.S.A.

wrote "When we first installed Drainators four years ago on several pieces of equipment, they appreciably shortened the time of cook and gave us a much better product."

"About two years ago we built a new modern plant and added considerable steam equipment all of which we equipped with Drainators."

"We are glad to recommend this trap for steam process equipment and other places where it is applicable."

Learn about the distinguishing features of this advanced trap. Write for literature.

The COE MFG. Co.
499 Bank Street, Painesville, O.

When inquiring specify EP2170... see information request blank, pgs. 16-17

LINTERN GLOWLITES

Industry's Signal for greater
Safety, Profits, Efficiency

A variety of uses, covering literally thousands of individual applications, account for the widespread popularity of Lintern Glowlites. They show when a machine is on or off; indicate normal or abnormal operations (with regard to temperature, pressure, speed, etc.); control plant traffic; locate safety devices; warn of danger points; and act as a call signal system, especially in noisy plants.

In addition to their application for almost any job, Glowlites are preferred because of their low initial cost, distinctive signal strength, and reliable service, resulting from exceptionally sturdy construction, at a minimum of maintenance. Models to fit all needs.

Among the many specific uses listed in our catalog, you are almost certain to find profitable applications for Glowlites in your plant. Write for your copy now.



THE LINTERN CORPORATION

7960 Lorain Avenue

Cleveland, Ohio

When inquiring specify EP2171... see information request blank, pgs. 16-17

New Literature (Con.)

Handbook on Building Maintenance

Fourth revised edition of this 74-page booklet embodies complete style change from previous editions. Over 150 illustrations are used to show how to stop leaks quickly, make feather-edge patches stick to concrete, patch roofs, install floor grids, and hundreds of other building maintenance ideas and suggestions. Booklet is available upon request.

FLEXROCK CO., Dept. EP, 2311 Manning St., Philadelphia, Pa.
When inquiring specify EP2172... see information request blank, pgs. 16-17

Double & Triple Reduction Gearmotors

These gearmotors, for A-C. or D-C. current, are well displayed in a four-page, two-color descriptive folder. Cut-away drawings show major features of gearmotors. Photos show other points of importance in product. Bulletin No. 404 is available.

RELANCE ELECTRIC & ENGINEERING CO., Dept. EP, 1092 Ivanhoe Road, Cleveland, Ohio.
When inquiring specify EP2173... see information request blank, pgs. 16-17

Chemical Solution Feeders

Four-page bulletin gives complete information on these feeders which volumetrically measure and feed clear chemical solutions in treatment of water and sewage and in chemical processes. Detailed drawings and specifications are included. Bulletin 302 is available.

INTERNATIONAL FILTER CO., Dept. EP, 325 West 25th Place, Chicago, Ill.
When inquiring specify EP2174... see information request blank, pgs. 16-17

Welded Outlets for Piping

This well-handled catalog of 20 pages makes effective use of many photographs to tell products story. Close-up series shows how one product is installed. Many installation views are used, showing piping on which these outlets have been used. One section shows how flow goes through a pipe and how flow is affected by various types of outlets. Bulletin WT-29 is available on request. BONNEY FORGE & TOOL CO., Dept. EP, Allentown, Pa.

When inquiring specify EP2175... see information request blank, pgs. 16-17

Engineering Properties of Monel

Twelve-page technical bulletin gives complete engineering properties of Monel. Information in bulletin includes composition and physical constants, strength and ductility, effect of temperature on strength, corrosion resistance, types or corrosion, working properties, description of mill products, etc. Many charts and tables are used. Technical Bulletin T-5 is available.

INTERNATIONAL NICKEL CO., Dept. EP, 67 Wall St., New York, N. Y.

When inquiring specify EP2176... see information request blank, pgs. 16-17

"Profits From Waste Fluids"

8-page booklet uses many drawings to illustrate the major features of this liquid separating equipment. Operating principles are clearly shown with explanatory descriptions. Bulletin has long list of various types of plants where equipment is being used. Bulletin is available.

GALE OIL SEPARATOR CO., Dept. EP, 405 Lexington Ave., New York, N. Y.

When inquiring specify EP2177... see information request blank, pgs. 16-17

Electroforged Steel Grating and Stair Treads

Two-color, 24-page catalog has many illustrations of diverse applications showing grating used as flooring and stair treads. A comprehensive table of safe loads and size variations is included. Five major features of product are clearly indicated. Catalog No. 1773 is available.

BLAW-KNOX CO., Dept. EP, Farmers Bank Bldg., Pittsburgh, Pa.

When inquiring specify EP2178... see information request blank, pgs. 16-17



Stationary Tanks

Need Good Footing, Too!

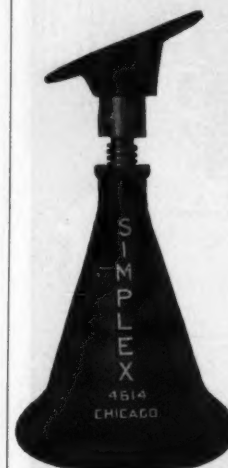
Simplex Adjustable Tank Supports provide a firm footing for tanks, vats, water softeners and other metal, wood or ceramic processing containers.

They are adjustable for leveling tanks or to provide gravity flow. They are easy to install; saddles that fit the contour of any tank are available for welding directly onto tanks or to cradle bands, "I"-beams, etc. They are sanitary, eliminate costly fixed foundations, make floor flushing easy and cost less than built-up legs or fixed foundations.

Available in 28 sizes with 12 types of cast and forged steel saddles. Get complete information on these neat, practical and economical supports.

TEMPLETON, KENLY & CO.
Chicago, Illinois

Sole Manufacturers



SIMPLEX Jacks

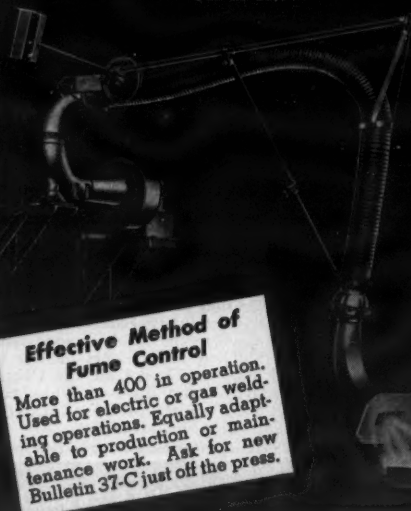
Awarded the Gold Medal for Safety

When inquiring specify EP2179... see information request blank, pgs. 16-17

Banish Welding Fumes!

Here's a Practical Welding Fume Collector that Removes
Noxious Gases, Heat and Smoke at the Source

*Pat. Re-21,277



Effective Method of
Fume Control
More than 400 in operation.
Used for electric or gas welding operations. Equally adaptable to production or maintenance work. Ask for new Bulletin 37-C just off the press.

RUEMELIN MFG. CO., 3858 N. Palmer St., Milwaukee, Wis.

RUEMELIN FUME COLLECTOR

When inquiring specify EP2180... see information request blank, pgs. 16-17

PREVENT



Gas Leakage

Regardless of pressure or temperature, FRANCE "full-floating" Metal Packing quickly saves its initial cost by preventing leakage in any type of gas compressor stuffing box. Provides efficient service for years without maintenance expense.

The type illustrated can be provided with a vent connection in addition to the lubrication connection, if desired.

You can also increase efficiency and reduce packing costs by installing FRANCE "full-floating" Metal Packing on your engines and pumps.

Write for detailed information and Catalog M-8.

THE FRANCE PACKING CO.

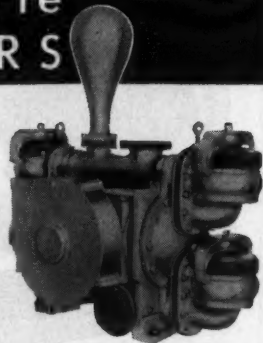
TACONY, PHILADELPHIA, PA.
Branch Offices in Principal Cities



When inquiring specify EP2181... see information request blank, pgs. 16-17

Rough on Your Pumps? Not if They're SHRIVERS

for CORROSIVES
ABRASIVES
SLURRIES
SLUDGES
PASTES



Eliminate interruptions in steady pumping service and reduce repair bills in handling difficult fluids, valuable, easily contaminated or quick settling materials — with Shriver Diaphragm Pumps. Users report annual maintenance costs of only 1 to 3% of original pump cost where previously they used to replace complete pumps of other make every 2 to 6 months. Shriver Pumps are rugged, powerful, easy to clean, efficient, built to take a beating yet continue to give uninterrupted service. Capacities from 1 to 100 G.P.M. at pressures up to 100 lb.

Write for Catalog.

T. SHRIVER & CO.
846 Hamilton St.
Harrison, N. J.

SHRIVER DIAPHRAGM PUMP

When inquiring specify EP2182... see information request blank, pgs. 16-17

No Packings
No Leakage
No Contact between Fluid and Operating Parts

All Parts Contacting Fluid Made of Any Metal or Rubber Lined.

New Literature (Con.)

Solenoid Valves For Automatic and Remote Control

Eight-page folder features many types of valves including safety shut-off and trip, packed and packless types, three and four-way pilot valves, explosion-proof solenoid valves, etc. General information is supplied for all models. Circular 100 is available on request.

AUTOMATIC SWITCH CO., 45 East 11th St., New York, N. Y.
When inquiring specify EP2183... see information request blank, pgs. 16-17

Continuous Centrifugal Filter and Suspended Centrifugals

Series of bulletins dealing with a variety of filtering problems. Bulletins are informal presentations of various filtering problems with a list of 50 or more chemical products where units are now in operation. Current and future issues will be sent upon request.

BIRD MACHINE CO., Dept. EP, South Walpole, Mass.
When inquiring specify EP2184... see information request blank, pgs. 16-17

Magnifiers and Readers

16-page catalog and cover used to display maker's line of magnifiers and readers. Foreword has question-and-answer section on magnifiers. Wide variety of products are shown with photographs and specific data about each. Dissecting microscopes, pocket magnifiers, reading glasses, focusing and measuring magnifiers, linen testers, etc. are shown in detail. Catalog I-15 is available.

BAUSCH & LOMB OPTICAL CO., Dept. EP, Rochester, N. Y.
When inquiring specify EP2185... see information request blank, pgs. 16-17

Glycols

Folder describes ethylene glycol, several polyethylene glycols, propylene glycol and dipropylene glycol. Included is a table of reference data on commonly used physical constants and solubilities of these glycols. Folder should be useful to those using or manufacturing humectants, solvents, anti-freezes, resin intermediates, coupling agents and liquid coolants. Copies are available.

CARBIDE & CHEMICALS CORP., Dept. EP, 30 East 42nd St., New York, N. Y.
When inquiring specify EP2186... see information request blank, pgs. 16-17

Hand and Motor Winches

Bulletin No. 340 describes these hand and motor winches for lifting and pulling loads up to 3000 lbs. Various models are pictured, with specifications, including wall, safety wall, floor, and speed reducer winches. Bulletin is available.

STEPHENS-ADAMSON CO., Dept. EP, 11 Ridgeway, Aurora, Ill.
When inquiring specify EP2187... see information request blank, pgs. 16-17

Handbook on Industrial Dermatitis

Forty-four-page booklet describes various causes, means of prevention and protection against industrial skin diseases. Included also in booklet is a 20-page scientific study of skin structure and composition and the underlying principles of skin injury in relation to industrial dermatitis. Ten kinds of creams and ointments are enumerated for specific application. Booklet is available upon request.

MILBURN CO., Dept. EP, 905 Henry St., Detroit, Mich.
When inquiring specify EP2188... see information request blank, pgs. 16-17

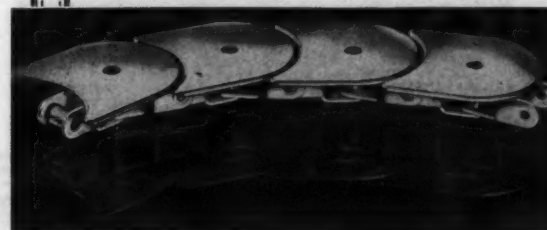
Air-Motored Agitators

Four-page, 8 x 11 inch folder illustrates and describes the various types and sizes of air-motored agitators made by this manufacturer. Mixers described include explosion-proof and splash-proof types with variable speeds from 30 to 6000 RPM. Folder is available upon request.

ECLIPSE AIR BRUSH CO., Dept. EP, 390 Park Ave., Newark, N.J.
When inquiring specify EP2189... see information request blank, pgs. 16-17



A Conveyor Chain that Operates in 2 PLANES



LINK-BELT >UNIVERSAL< CARRIER CHAIN

● Link-Belt Universal Carrier Chain is an accurately made, finished-steel chain equipped with a steel carrier or top plate for handling bottles, jars, and cans in the process of manufacture, and in cleaning, filling and capping operations. It is so designed that it permits sprocket engagement in two planes. This feature makes it practical for use on exceptionally long conveyors instead of using several short transfer conveyors from one machine to another. And its extreme flexibility permits conveyors to be arranged to clear machines and other obstructions, as it operates in rectangular, circular, semi-circular or irregular paths.

Complete information is given in Data Book No. EP-1757, as well as on Flat-Top and other extended pitch carrier chains.

● We make all types of malleable, Pro-mal, steel, stainless, bronze, and other alloy driving and conveying chains, and are free to recommend the best one for the purpose.

LINK-BELT COMPANY

Indianapolis - Chicago - Philadelphia
Atlanta - Dallas - San Francisco - Toronto
Offices, Warehouses and Distributors in Principal Cities

When inquiring specify EP2190... see information request blank, pgs. 16-17



AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE FOR A-C. CIRCUITS

SPEED RANGES UP TO 12 TO 1
SIZES 1 TO 15 HP.

1. CONVENIENCE Without Limitations

Place start-stop button, also speed adjuster any place that you can run a wire. They're compact, so can be grouped with other control elements for the machine.

2. HELPS SIMPLIFY DESIGN

You can get power closer to the point where power is needed... eliminate intermediate speed-changing devices... take humps and bulges out of your machine.

3. FROM A-C SUPPLY

You get the many advantages of this drive at a new low price because of the "packaged" VOS Speed Control Unit. Mount it any place, and for a 3-phase a-c. power circuit, just run three wires.



AND THESE TOO. Quick stopping, reversing, safe speeds for threading, ample starting torque with smooth acceleration, speed setting. Get Bulletin 309 for details.

Reliance Electric & Engineering Co.

1092 IVANHOE ROAD
Sales Offices in Principal Cities

CLEVELAND, OHIO



When inquiring specify EP2191... see information request blank, pgs. 16-17

ANODE SOLVES ANOTHER RUBBER-COVERING PROBLEM



● To completely cover cast iron filter plates with soft rubber, which possessed the proper adhesion, was the problem facing a certain manufacturer. Plates were then submitted to Miller for rubber covering by the Anode process. Result—an even thickness of soft rubber applied over the entire surface (including the almost inaccessible outlets) with perfect adhesion.

The Anode process permits the covering of irregular shaped metal parts with a uniform thickness of soft, semi-hard or hard rubber which offers, in addition to improved adhesion, greater tensile strength and age resistance. For complete information, write—

MILLER RUBBER COMPANY, INC. • AKRON, OHIO

"Engineers in Rubber"

When inquiring specify EP2192... see information request blank, pgs. 16-17

New Literature (Con.)

"How To Paint Concrete, Masonry, Stucco, Etc."

Twenty-four-page-and-cover booklet shows many examples of use of three main types of paint on concrete, stucco, masonry and other surfaces. Directions for using these three paints are given in detail. Booklet is available.

MEDUSA PRODUCTS CO., Dept. EP, 1000 Midland Bldg., Cleveland, Ohio.

When inquiring specify EP2193... see information request blank, pgs. 16-17

Power Circuit Air-Cooled Transformers

Two-color, 12-page booklet illustrates various types of air-cooled transformers in sizes from .05 to 15 KVA in the double wound type and .1 to 25 KVA in the auto transformer type. Suggestions are made for applications, and wiring diagrams, specifications and dimension tables are shown. Bulletin 401-PCT is available.

JEFFERSON ELECTRIC CO., Dept. EP, Bellwood, Ill.

When inquiring specify EP2194... see information request blank, pgs. 16-17

Relative Creep Stress Data on Croloys 2 & 2 1/4

Creep Stress Data on Croloy 2 and 2 1/4 and other materials in the same range in high-temperature tubing field are available on handy letter-size card. Data are arranged in chart form so that relative creep strength of each material can be seen at glance. Technical Data Card No. 4 is available.

BABCOCK & WILCOX TUBE CO., Dept. EP, 19 Rector St., New York, N. Y.

When inquiring specify EP2195... see information request blank, pgs. 16-17

Self-Contained Metering Unit

Four-page folder gives complete specifications of several models of these self-contained metering units for use on fuel or range oil trucks, bulk plants, and industrial applications where such meters are applicable. Special features are highlighted with close-up photos and drawings show details. Model H Bulletin is available on request.

S. F. BOWSER & CO., INC., Dept. EP, Fort Wayne, Ind.

When inquiring specify EP2196... see information request blank, pgs. 16-17

Multi-Point Draft and Pressure Indicator

Attractive 12-page booklet gives complete details on these multi-point indicators for draft, pressure and differential readings of boilers, furnaces, ovens, etc. Close-up photos effectively display major features of the product. Mounting dimensions and installation data are given in detail. Bulletin No. 801 is available on request.

REPUBLIC FLOW METERS CO., Dept. EP, 2240 Diversey Parkway, Chicago, Ill.

When inquiring specify EP2197... see information request blank, pgs. 16-17

Have You a "New Solution"?

If you have recently solved a problem in chemical process manufacturing, through a new application or new use of your regular products, The Editors invite you to submit the facts for publication in this department... in over 25,000 copies.

In submitting your "solution" please be sure to give the pertinent facts of (a) the problem, (b) just what was done and (c) what the results were.

Send to The Editors, EQUIPMENT PREVIEW
737 N. Michigan Ave. Chicago

★ HOW SLY DUST FILTERS



Sly Dust Filters drawing dusty air from tobacco cleaning and stemming operations.

help industry---and consumer

★ At the plant of a prominent manufacturer of cigarettes and tobacco these two Sly Dust Filters serve a threefold purpose: 1. Help clean the tobacco. 2. Maintain a clean and healthful atmosphere. 3. Cut manufacturing cost by saving the conditioned air.

These filters remove all the dust from the air (it is taken from the air conditioned building, filtered and returned to the building at the rate of 36,000 cu. ft. of air per minute). Connected to different machines used in the preparation of tobacco, the filters contain over 14,000 sq. ft. of special filter cloth.

This installation is but one of thousands. As specialists in this field, we can solve YOUR dust problems. Ask for new Bulletin 98.

THE W. W. SLY MANUFACTURING CO.

Branch Offices in Principal Cities

4734 TRAIN AVENUE

CLEVELAND, OHIO

When inquiring specify EP2198... see information request blank, pgs. 16-17

AIR at your command



ANY PRESSURE
TO 15 LBS.
VOLUME VARIABLE
AS NEEDED

Exact control of air used in any process is simple with Roots-Connorsville positive displacement blowers having variable speed drive. Ask for complete details.

**Roots
CONNERSVILLE
BLOWER CORP**

411 CULVER AVENUE

CONNERSVILLE, INDIANA

When inquiring specify EP2199... see information request blank, pgs. 16-17

Industry looks to TOLEDO



● This dial says "When" automatically! It has photo-electric control and weighs batch ingredients.

The basic principle of this versatile control device may help you solve some weighing or force measuring problem. It is accurate, rapid and automatic, saves time and cuts costs.

It's Toledo-built; another of the "45,000 Ways to Weigh"—and that's the title of a new illustrated brochure that you will find interesting, helpful, and time-saving. Send for it. TOLEDO SCALE COMPANY, Industrial Scale Division, TOLEDO, OHIO

When inquiring specify EP2200... see information request blank, pgs. 16-17

SHRINK TIME and DISTANCE with RUBBER TIRED WHEELS



All Sizes and Types Including SOLID RUBBER, SEMI and FULL PNEUMATIC TIRED for TRUCKS, CARTS and PORTABLE EQUIPMENT.

● WRITE for NEW CATALOG and PRICE LIST.



Stimulate production by speeding materials handling with faster, safer, quieter rubber tired wheels. Whatever your requirements, French & Hecht offer you the exact wheel types you need. One piece construction, no metal to stretch, no bolts to loosen, no pinching of tubes. Major benefits with small investment.

FRENCH & HECHT, INC.
200 FARNAM DAVENPORT, IOWA

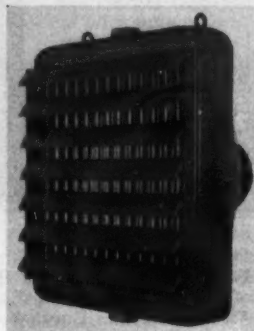


When inquiring specify EP2201... see information request blank, pgs. 16-17

Steam Unit Heaters

Two-Piece Header Gives "Balanced" Steam Distribution

Features — Heaters have fully-enclosed, self-cooled motors which, the maker states, cut power costs from 5% to 10%, while motor does not "gum-up" from contact with foul air or "slow-roast" because of radiated heat from its core. Two-piece header, similar to that used in high pressure boiler, gives "balanced" steam distribution, permitting each tube to expand and contract uniformly with trouble-free operation on all steam pressures. At bottom, header "floats" on slotted coil retainer and spring washers to allow expansion and contraction of coil independent of unit casing.



Performance — With individually adjusted louvers to lessen air turbulence and increase heating range, units forcibly "shoot" heated air from 40 to 80 feet, delivering 385 to 6900 cu. ft. per minute, depending upon size of unit. 500 lbs. hydrostatic pressure is used for testing each unit.

Description — Heating coil is made entirely of copper. Consists of "wedged" tubes and fins, with 26-gauge fins flanged and pressed on the 1/2" O.D. seamless tubes for permanent union. Brass orifice bushings expand tubes in header plates. Dynamically balanced fan wheel gives quiet performance. To avoid weight on supply line (which often causes leaks), each unit has sturdy eye-bolts connected directly to header for independent safety suspension.

ILG ELECTRIC VENTILATING CO., Dept. EP, 2850 N. Crawford Ave., Chicago, Ill.

When inquiring specify EP2202... see information request blank, pgs. 16-17

Granulator Requires Little Head-Room

Placed Under Dryer to Utilize Gravity Flow Into Hopper

Uses — Automatic-screen type, of large capacity, is widely adaptable for breaking down lumps formed while materials are being processed or while standing in containers; for reducing to free-flowing granular powders porous, brittle or bulky materials as they come from dryers; for granulating pharmaceuticals, filter press cake, malted milk, coffee, extracts, etc. When fitted with screens of proper mesh, machine is suitable for preparing materials for tabletting or briquetting.

Features — Machine has low over-all height to permit installation directly under a dryer or other processing unit. Gravity flow is thus utilized to feed materials into hopper and eliminate need for conveyor belts or other handling devices.

Description — Machine is modified form of maker's standard oscillating granulator. It is of all-steel construction and tightly housed to prevent dust escape. Outboard rotor bearings assure ample lubrication without contaminating materials being processed.

F. J. STOKES MACHINE CO., Dept. EP, Philadelphia, Pa.



When inquiring specify EP2203... see information request blank, pgs. 16-17

WHEN CONSIDERING MIXERS

CONSIDER Ransome's 90 years providing industry with the best for best results



CONSIDER placing your problem before Ransome engineers for a solution based on experience

Industrial Division
RANSOME CONCRETE MACHINERY CO.
Dunellen New Jersey



Ransome Since 1850

SPECIALISTS IN MIXERS

When inquiring specify EP2204... see information request blank, pgs. 16-17

Waste Water Savings

Screening waste water recovers valuable solids... reduces pollution!



Link-Belt vibrating screen with a 24' x 48' screening surface, as used for separating solids from waste water at a cherry canning plant.

Most industries have the common problem of how to handle waste water in order to reduce pollution and clogging of streams they use for such disposal. The answer to this problem has brought an extra benefit, for by screening their waste-water many plants are recovering valuable solids and, at the same time, definitely reducing pollution.



SEND FOR THIS FREE FOLDER

Write today and see how a Link-Belt vibrating screen can solve your waste water problem. Change an expense to a profit—write for your copy of this new folder now! Ask for No. EP1877.

LINK-BELT COMPANY
307 N. Michigan Ave., Chicago

8220

LINK-BELT Vibrating SCREENS

When inquiring specify EP2205... see information request blank, pgs. 16-17

MOTORIZED Speed Reducers

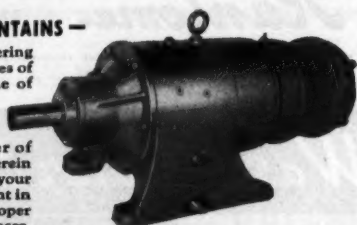


D.O. James Motorized Reducers are precision manufactured to meet the requirements of service for which they are designed. They have the highest possible efficiency, accessibility and are most compact.

GET IT! Initial this space, attach to your letterhead and mail to us

THIS CATALOG CONTAINS —

112 pages of engineering data, weights and prices of the D. O. James line of Motorized Reducers. It lists completely selection tables, service factors and character of load. Information therein will prove helpful to your engineering department in the selection of the proper type of Motorized Reducer.



MOTORIZED PLANETARY REDUCER

Horizontal and vertical drive, made in 35 sizes, ratios 10 to 1200:1. $\frac{1}{4}$ to 75 H. P.



MOTORIZED WORM GEAR REDUCER

With either horizontal or vertical drives. Made in 11 sizes, ratios 6 to 80:1 and a horse power range of $\frac{1}{4}$ to 50 H. P.

MOTORIZED HELICAL REDUCER

With either horizontal or vertical drive. 13 sizes, ratios $1\frac{1}{4}$ to $9\frac{1}{2}$:1. $\frac{1}{4}$ to 50 H. P.

Sales and engineering offices in ALL principal cities



D.O. JAMES

D. O. JAMES MANUFACTURING COMPANY

ESTABLISHED 1888

1120 WEST MONROE STREET • CHICAGO, ILLINOIS

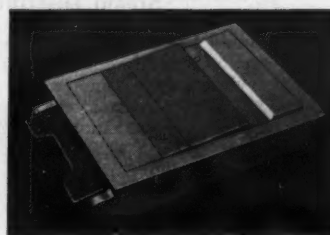
FOR OVER 50 YEARS MAKING ALL TYPES OF GEARS AND GEAR REDUCERS

When inquiring specify EP2206... see information request blank, pgs. 16-17

Permanent Spout Magnet

Class "A" Rating—Needs No Electricity

Uses—For extracting iron parts from free flowing solid or liquid materials. For metal or wood chutes and grinding mill feed tables. Low cost and freedom from operating cost make these magnets useful where electro-magnets are not justified.



Features—Maker states that these magnets are the first of this type to receive Class "A" rating from Mill Mutual Fire Prevention Bureau. Units are as strong as electro-magnets. No electricity is required. Sealed construction makes magnets suitable for both wet and dry materials. Not affected by dust, heat, moisture or vibration. Units are self-contained and indefinitely permanent, requiring no maintenance.

Description—Separator is 14" long and made from 4" to 24" wide. It is totally enclosed in an aluminum housing which hinges to chutes, spouts, hammermill feed tables, or can be suspended over material. Magnet is hinged on upper end, permitting easy cleaning.

RICHMOND MFG. CO., Dept. EP, 1940 Moyer, Lockport, N. Y.

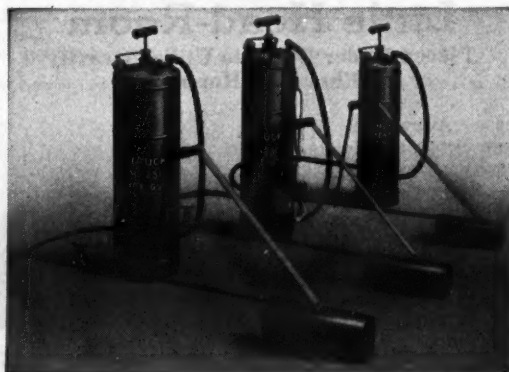
When inquiring specify EP2207... see information request blank, pgs. 16-17

Low-Priced Fire Gun

Produces Windproof, Smokeless Heat of 2000° F.

Uses—Utility torches for general maintenance work—drying and heating, disinfecting, thawing, etc.

Features—Units are portable, lightweight, sturdily built, windproof and smokeless. Produces quick, intense heat; delivers large flame at 2000 deg. F.



Description—Three sizes available. Flame size varies from 4" by 36" to 2" by 20". Complete outfit consists of a 2 (or 4 or 5, depending upon size) gallon capacity, all welded steel fuel tank tested at 100 lbs. pressure. Deeply recessed bottom provides strong wearing edge for fuel tank. Tank is fitted with a handle and quick acting, heavy brass long stroke pump. 60 lb. air pressure gauge and 6 ft. oil resisting hose with brass couplings connect to a fully enclosed, seamless steel coil burner. Overall length of burner is 36". Burns kerosene, coal oil, range oil or light furnace oil. Fuel consumption varies with three models from $1\frac{1}{2}$ to $\frac{3}{4}$ gallons per hour. Bulletin No. 1034 gives details.

HAUCK MFG. CO., Dept. EP, 124 Tenth Street, Brooklyn, N. Y.

When inquiring specify EP2208... see information request blank, pgs. 16-17

New Norblo Unit Dust Collectors

*Self Contained
Delivered Complete*

**For Screening, Individual
Elevators, Packing Machines, etc.**

The Norblo Self Contained Unit is portable. Simple in operation as well as economical. Designed for quick assembly in gangs for extra capacity if necessary.

Altho this unit weighs less than 900 pounds it is rigidly constructed. Ideal for pilot plants and research department use.

Write for Bulletin UDC

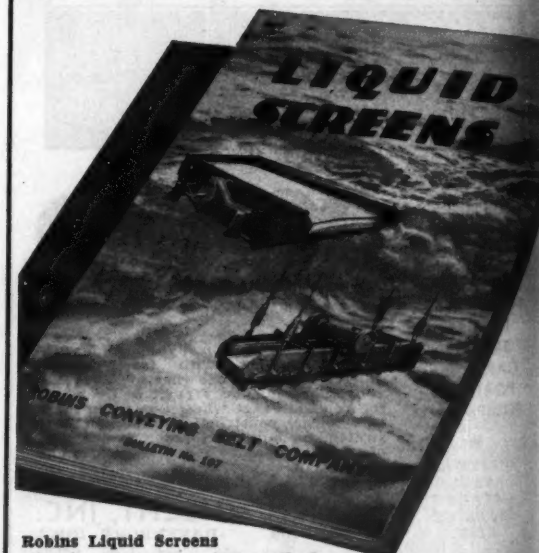
The Northern Blower Co.

6407 Barberton Ave.

Cleveland, Ohio

When inquiring specify EP2209... see information request blank, pgs. 16-17

SEND FOR THIS BULLETIN NOW..



Robins Liquid Screens offer a most economical method of extracting solids from liquids. Low in first cost. Low in operating cost. Efficient.

Robins Conveying Belt Co.

Passaic, New Jersey
Branches in principal cities

ROBINS

When inquiring specify EP2210... see information request blank, pgs. 16-17

EVERY ENGINEER

will want a
copy of this
NEW
BULLETIN



TYPE CK-3. List price \$100.00 complete with Fries Humidistat, solenoid control valve, fan, strainer, and condensate drainage trap.

When inquiring specify EP2211... see information request blank, pgs. 16-17



READ "Facts You Should Know About Winter Humidification," also tables on regain of hygroscopic materials, desirable relative humidity for various industries, and complete data on how to figure your own humidification requirements. Copies free, write ARMSTRONG MACHINE WORKS, 880 Maple St., Three Rivers, Mich.



Better, lower-cost protection with WHITE Neoprene Gloves Now Yours in

● Made exclusively by Pioneer for food, dairying and other industries requiring white gloves, these new White "Stanzoils" resist deterioration by materials that quickly destroy natural rubber—such as fats, greases, acids, alkalis and similar materials.

"Stanzoil" Industrial Gloves of white neoprene protect your employees against injury by contact with harmful liquids, and they safeguard you against loss of time, loss of production, and disability claims. With 21 years' successful glove-making experience, this Company has literally pioneered in developing gloves of neoprene and is the largest manufacturer in this industry.

Send today for complete information about "Stanzoil" neoprene Black Gloves, White Gloves, and Aprons.

THE PIONEER RUBBER COMPANY
239 TIFFIN ROAD, WILLARD, OHIO, U. S. A.
New York • Chicago • Los Angeles

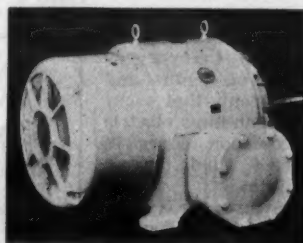
MADE WITH DU PONT NEOPRENE

When inquiring specify EP2212... see information request blank, pgs. 16-17

Explosion-Proof Motors

Up to 75 H.P. Now Available

Features—Larger motors of shell type frame construction have specially designed fan which is quiet even at high speeds. Larger terminal box makes wiring more convenient. For example, cubic content of 40 H.P., 1800 R.P.M. model is 600 cubic inches.



Description—In Class I Group D explosion-proof motors, ratings have been increased from 25 to 75 H.P., while in Class II Group G, they have been increased from 7½ to 75 H.P. Fan-end inner end bell and outer fan cover bracket are held in place with simplified type combination screw; this construction eliminates one set of holding screws and supplies rigid and secure mounting for fan cover and bracket as well as facilitating assembly or disassembly of motor. Bulletin for details is available. U. S. ELECTRICAL MOTORS, INC., Dept. 1, 80—34th St., Brooklyn, N. Y.

When inquiring specify EP2213... see information request blank, pgs. 16-17

Thermocouple Fitting

Snug Fit in Ground Joint Make Units Vapor and Fume Tight



Uses—Designed for thermocouple replacements.

Description—Universal union for angle-type couples facilitates thermocouple replacements. Two halves of union fit snugly together in a ground joint, making it vapor and fume tight. By unscrewing a single clamping nut—which cannot fall off—the thermocouple's hot leg can be detached; or it can be rotated to any angle between 90 and 180 deg., and locked firmly in place.

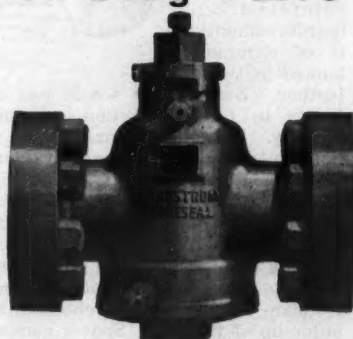
LEEDS & NORTH-
RUP CO., Dept. EP,
4934 Stenton Ave.,
Philadelphia, Pa.

When inquiring specify EP2214... see information request blank, pgs. 16-17

Lubricated Plug Valve

Uses—Principally designed for recycling services in gas and oil fields, valves have other applications in refineries and in processes where tremendous pressures are carried.

Description—Believed to be one of the heaviest duty plug valves ever manufactured, valve is capable of handling working pressure of 7500 lbs. It is tested for 15,000 lbs. Made of special alloy steel with both plug and interior contact surfaces faced with "Merchrome." Extremely heavy flanges and side walls are incorporated to prevent body distortion. Further details available from—
MERCOR NORDSTROM CO., Dept. EP, 400 Lexington Ave., Pittsburgh, Pa.



When inquiring specify EP2215... see information request blank, pgs. 16-17

INDUSTRY CHOOSES YALE!



EXCLUSIVE
FEATURES
MAKE CABLE KING
the buy!

Air-cooling, lifetime gears, precision bearings and weather-proof motor are

some of the features you get in the new Cable King electric hoist. Cable King will operate on a heavier duty cycle than any other hoist in the same class! That's because Cable King's exclusive air-cooling eliminates excess brake heat. Cable King does more in any given operating hour—means greater savings. This new different electric hoist is described in detail in a FREE catalog. Send for it.

YALE

Capacity ¼ to 6 tons.

THE YALE & TOWNE MFG. CO.
4530 Tacony St., Philadelphia, Pa.

Please send me without obligation
the new FREE Cable King Catalog.

Name _____

Address _____

When inquiring specify EP2216... see information request blank, pgs. 16-17

All The Advantages of



PURE
INCONEL

...With The Economy of A Steel Plate Base

This long tube vertical evaporator, built by Swenson Evaporator Company, Harvey, Illinois, used in concentrating pectin liquor, is an excellent example of the economy of Lukens Inconel-Clad Steel. Built of 20% Inconel-Clad, it offers all the corrosion resistance and product protection of pure Inconel—at a saving over the cost of a solid corrosion-resisting metal.

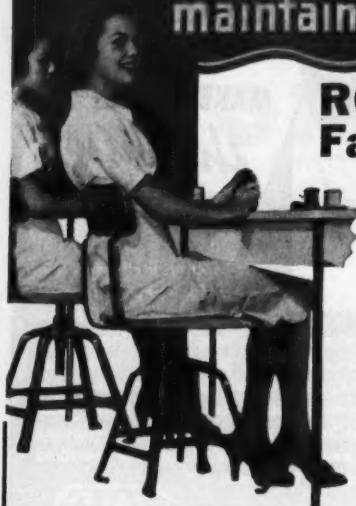
For further information on the advantages of Lukens Inconel-Clad, Nickel-Clad or Monel-Clad Steel, write Lukens Steel Co., 112 Lukens Bldg., Coatesville, Pa.



Lukens INCONEL-CLAD Steel

When inquiring specify EP2217... see information request blank, pgs. 16-17

SUSTAINED OUTPUT maintains profits



ROYAL Factory Seating

helps tremendously to attain that objective. Employees are more apt to extend themselves — are happier in their work — if comfortably seated on Royal chairs adjustable to exactly the right height, with form-fitting, resilient backs and wide, saddle-shaped seats — revolving or stationary, as preferred.

Royal's steel chairs and stools fill the bill to perfection — there's one for every job and type of worker. Write for complete catalog.

SEND FOR
FREE TRIAL
SAMPLE CHAIR

ROYAL METAL MFG. COMPANY

192 N. Michigan Ave., Dept. B., CHICAGO
NEW YORK LOS ANGELES TORONTO

ROYAL SEATING PAYS FOR ITSELF

When inquiring specify EP2218... see information request blank, pgs. 16-17

UNIVERSAL

Vibrating Screens and Riddles

ENCLOSED HEAVY DUTY SCREENS

for the Chemical Process Industries, now available. Also full line of open type, standard models.

Efficient — Reliable — Economical, yet — priced most reasonably. Write for descriptive bulletins today!



"UNIVIBE" Light-Weight, Portable Riddles for batch screening, testing, etc. Screen panels changed in a moment. Weighs but—39 lbs. Operates from light socket. Sturdily constructed, reliable and fully guaranteed. Complete Unit with stand — only \$87.50 f.o.b. Racine, Wis.

UNIVERSAL VIBRATING SCREEN CO.

RACINE — WISCONSIN

When inquiring specify EP2219... see information request blank, pgs. 16-17

Safety Transformer

Reduces Any 110 or 115 Volt Current Down to Safe 6 Volt

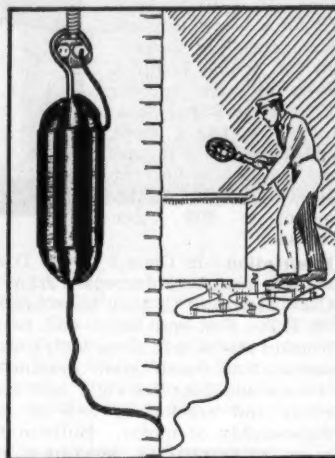
Uses—Primarily designed for prevention of deaths and accidents that occur in handling electric extension cords in wet and damp places.

Features — Light weight, small cylindrical unit, has outer shell made of a non-corrosive, non-conductor and tough compound shell enclosing a water-proof transformer element. Case is stated to be water and moisture tight. Hook is provided on one end to carry and hang where convenient.

Operation—To use the transformer, it is only necessary to plug one set of wires in any 110 or 115 V receptacle. Device can then be hung by its hook on the BX receptacle, any handy obstacle or even lying on its side on floor or table. To the other end of transformer the light extension cord is attached. Function of the transformer is to reduce any 110 or 115 V current down to the safe 6 V to prevent injury if short or accident occurs. Unit provides for a 6 V lamp using up to 50 watts.

NEWARK TRANSFORMER CO., Dept. EP, 17 Frelinghuysen Ave., Newark, N. J.

When inquiring specify EP2220... see information request blank, pgs. 16-17



Double "U" Packings

Have Double Wearing Wall and Double Heel

Features — Outer ply is of oak tanned leather belting; heel is reinforced against pinch on inside and outside circumference. Reinforcement is of chrome tanned belting leather.

Steam bent white oak spacer holds packing firmly in proper position and protects packing from shifting. Phosphor bronze spring, riveted to oak spacer, holds packing lightly against gland ring and plunger surface. Reinforcements are automatic in adjustment to any pressure. Leather is at "rest," never having been drawn under distorting tension of forming rings.

Description—Spring spacer insures primary seal until packing lips can be set to plunger surface under pressure so as to carry seal to packing heel. White oak spacer is steam bent to packing channel, and fits snugly against outer lip of the "U". Spacer cannot fall or float out, nor can lips of packing collapse, shrink or curl during periods when no liquid is present in packing recess. Packings are available in section sizes from 1/2" to 3/8" inclusive, for any plunger diameter from 9" to 90". All section sizes from 1/4" to 1 1/4" available soon. Form 21 gives complete specifications.

WAYNE DAVIES PACKINGS, INC., Dept. EP, 325 West Huron St., Chicago, Ill.

When inquiring specify EP2221... see information request blank, pgs. 16-17



ALL OVER THE WORLD THEY PUT IT UP TO EASTERN

FOR MIXERS

For every mixing process there's an Eastern Mixer precisely engineered for that particular purpose. Constructed to stand the hardest kind of service.

FREE!

Send for Eastern's catalog-manual "Eastern Mixing Equipment," which gives valuable engineering data and information on mixing problems of all kinds, as well as showing the entire Eastern line of products. This is a helpful handbook for anyone employing mixing equipment.

Complete line of
Side Entering
Agitators
Portable Mixers
Vertical Mixers

PORTABLE MIXER
MODEL H-1

Sizes fractional up to 20 H.P.

EASTERN ENGINEERING CO.

49 Fox Street, New Haven, Conn.

When inquiring specify EP2222... see information request blank, pgs. 16-17

It Pays to Stay at HOTEL LAFAYETTE

Buffalo's Best Located Hotel

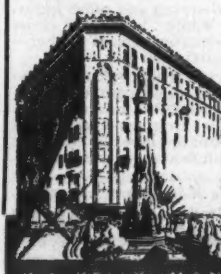
Right in the heart of Theater, Shopping and Business district. Fine rooms, comfortable beds, excellent food at moderate prices in our dining rooms and coffee shop. Garage across the street. The Hotel that has "everything."

LOW RATES

Single	Double
\$2.50 up	\$4.00 up

Special rates for 4 or more

Write for Folder R.



Hotel LAFAYETTE
BUFFALO, N.Y.

When inquiring specify EP2223... see information request blank, pgs. 16-17

EQUIPMENT PREVIEW

Of Chemical Process Industries

New Chemicals New Materials
New Equipment New Applications
—of special interest in
Chemical and Process Manufacturing

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28,000 Copies of This Issue

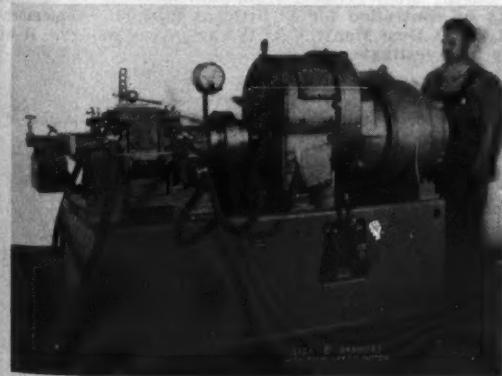
... covering all manufacturing plants in Rubber, Chemicals, Paint, Glass, Explosives, Fertilizers, Rayon, Brick and Tile, Plastics, Soap, Paper, Glue, Brewing, Distilling, Sugar, Coke, City Water Treatment, Oil Refining, Leather Tanning, Cement, China and allied lines.

Banbury Mixer For Laboratory Uses

Produces Experimental Mixes Comparable To Production-Size Units

Uses—For experimental and research laboratory work; for development and improvement of formulas; and for determining best procedures for handling stock on such products as small batches of rubber, asphaltic materials, phenolic condensation products, resinous compounds, paints, enamels, lacquers and other plastic materials.

Features—Complete access for unloading and cleaning is possible as material, when mixed, is unloaded by opening front hinged side of mixing chamber; and rear side of chamber can also be opened. All gearing has cut teeth and is enclosed in sheet steel guards. No compressed air is needed to operate machine.



Description—Mixers are same design as production machines, but have been simplified. Laboratory model is made in three sizes. Size B, shown in cut, has special feature of a four-speed motor which permits testing effects of four speeds on different types of stock. Capacity of this model is two pounds of crude rubber and greater for stocks of higher specific gravity. Two mixing rotors are fitted with end thrust adjustment; have two steel sheeting

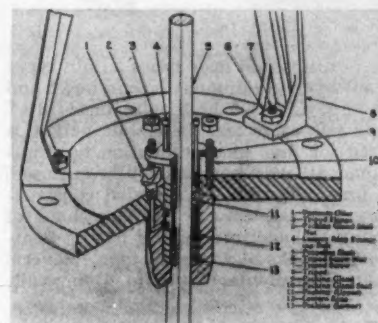
rolls on extended rotor shafts outside the mixing chamber to allow sheeting of material after mixing. Mixing rotors and chamber in which they are enclosed are jacketed for heating or cooling. Unit is equipped for circulation of either steam or water for temperature regulation. Hand operated floating weight is provided, and an open tank for cooling water discharge. Size B requires $7\frac{1}{2}$ H.P. Machine is at convenient working height for operator.

FARREL-BIRMINGHAM CO., INC., Dept. EP, Ansonia, Conn.

When inquiring specify EP2224... see information request blank, pgs. 16-17

Lantern Ring Puller Now Built-In

Eliminates "Fishing" For Hard-To-Remove Lantern Rings



reducing wear and lengthening operating life. "Fishing" for hard-to-remove lantern rings is eliminated entirely as is the risk of marring or scratching "frozen" rings, and damage to shaft. Operation is simple.

Operation—Once the upper packing is removed, puller bolts are threaded into the lantern ring (see details in illustration). Compressor nuts are used below the compressor ears to pull out the entire assembly.

MIXING EQUIPMENT CO., Dept. EP, 1085 Garson Ave., Rochester, N. Y.

When inquiring specify EP2225... see information request blank, pgs. 16-17

Midget Centrifugal Pump

Weights 6 Lbs. — Maximum Volume Is 8 G.P.M.

Uses — Small size and light weight make pump adaptable for pumping thin liquids where weight and space involved must be kept at minimum.

Features — Light weight unit is sturdily constructed for long hour service. Engineered to yield maximum volumes and pressures for space occupied.

Performance—Maximum pressure is 20-25 lbs. per sq. in. Maximum volume is 8 gallons per minute.

Description—Model E pump weighs 6 lbs.; $7\frac{1}{2}$ " long, $3\frac{3}{4}$ " high, $3\frac{3}{4}$ " wide. Motor is universal heavy duty fan cooled, $\frac{1}{20}$ H.P., 115 volts, AC or DC. Centrifugal type pump with total internal volume of 12 CC. Stuffing box is adjustable by means of hand operated wheel. Motor armature and pump impeller are mounted on single shaft for perfect alignment — no coupling necessary. Standard material is Monel, stainless steel and chromium plated bronze construction. Other metals and alloys available.

EASTERN ENGINEERING CO., Dept. EP, 49 Fox St., New Haven, Conn.

When inquiring specify EP2226... see information request blank, pgs. 16-17



AN EASY WAY TO INCREASE YOUR WASHING FACILITIES

• Now that so many plants have increased number of employees, inadequate or obsolete washing facilities require immediate attention. . . . Many plants have solved their difficulties by means of group type wash fixtures, each unit of which serves 8 to 10 persons simultaneously — cut water consumption by 70% and serve more people in a given space in less time.

Such fixtures—Washfountains—made by the Bradley Washfountain Co., 2257 W. Michigan Street, Milwaukee, Wisconsin, can be installed easily in present or new buildings. Each 10-person Washfountain requires no more piping connections than one single person basin, so the savings are obvious. . . . The announcement is made that the company's new 1941 Catalog will be off the press November 15th and copies are available on request.

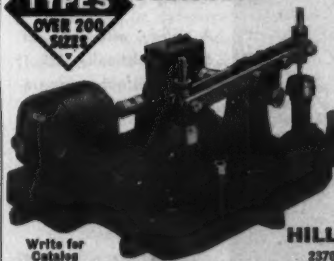
When inquiring specify EP2227... see information request blank, pgs. 16-17

DO YOU USE PUMPS

IN YOUR PROCESSING?

IF SO
HILLS-McCANN
Chemical
Proportioning Pumps
Offer These Three
Functions...

9
TYPES
OVER 200
SIZES



Write for
Catalog

HILLS-McCANN COMPANY
2370 Nelson Street, Chicago, Illinois

HILLS-McCANN
Positive PROPORTIONING PUMPS

1. FOR PROPORTIONING

They deliver variable amounts of constituents with unfailing accuracy, from as little as a drop per stroke, up to capacity.

2. FOR PRESSURES

They will inject materials at pressures from 0 up to 22,500 P.S.I. with mechanical regularity.

3. FOR VOLUME

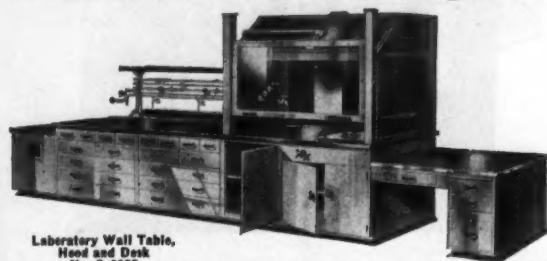
They deliver from as little as 1.2 G.P.H. up to 1500 G.P.H. with exactities adjustable while operating, in either intermittent or non-pulsating stream.

9 Types are available in single and multiple-feed assemblies, on single bases with optional drives. Liquid ends protected by recommended alloys for handling corrosive fluids.

Equipped with check valves most suitable for liquid, gas, or semi-liquid pumped.

When inquiring specify EP2228... see information request blank, pgs. 16-17

Furniture that Keeps Pace with Scientific Progress



Laboratory Wall Table,
Head and Desk
No. 8-2055

Specify KARCITE MOLDED CERAMIC SINKS

Free from distortion—inert to solvents and mineral acids (except hydrofluoric). Will not crack or break under ordinary weight shocks and thermal shocks. Gray black color—smooth-surfaced—dull gloss finish. Lighter—stronger—easier to clean. Write for Catalog.



Karcite
Sink
No. 8-900

Kewaunee has always felt that there is much more to Laboratory Furniture than the materials and labor that go into their making. We strive to embody the ideas, preferences and conveniences of men who set the pace in scientific progress. In doing so, we also keep the pace with them.

Kewaunee's matchless facilities, large production, economical methods of operation and nationwide sales organization make possible the extra values Kewaunee gives without extra cost.

Kewaunee Mfg. Co.
LABORATORY FURNITURE EXPERTS

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320 Lincoln St., Kewaunee, Wis.
Eastern Branch: 220 E. 42nd St., New York, N. Y.
Mid-West Office: 1206 Madison St., Evanston, Ill.
Representatives in Principal Cities

When inquiring specify EP2229... see information request blank, pgs. 16-17

This strainer cleans itself

The ELLIOTT Self- Cleaning Strainer



Dirty
Liquid

Clean
Liquid

Cleans water of dirt, sand, fibrous matter continuously, without attention. The self-cleaning function is particularly reliable, being provided by a slowly rotating element which passes over each straining section in turn, blanking it off and permitting back pressure to flush out all arrested foreign matter, which then passes out the drain at the bottom of the unit. The construction of the straining sections prevents matting of fibrous matter. Bearings are entirely immune to cutting or scoring by dirt or grit.

A sturdy, efficient unit, characteristically Elliott in its satisfactory operation. Full details in Bulletin A-8.

A-247

ELLIOTT COMPANY

Accessories Dept., Peterson St., JEANNETTE, PA.
District Offices in Principal Cities.



When inquiring specify EP2230... see information request blank, pgs. 16-17

22 Quart Mixer

Four Speed Mechanism Shifts Without Stopping Motor

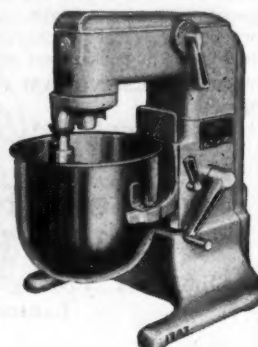
Uses—For mixing batches of materials in small quantities.

Features—Unit has four speeds controlled by one lever, and shifts from one speed to another can be made without stopping the motor. Has simple operating automatic timer to give uniform mixing of separate batches and to release operator for other duties. Has adapter for 12 quart bowl—does double-duty and eliminates need for extra, smaller mixer.

Description—Mixers are made in two models—bench and floor types. Both types use 1/4 H.P. motor; standard equipment is one bowl and two beaters. Floor type is 48 1/2" high with base 19 1/2" by 19". Bench type has same size base, but height is 28 3/4". V-belt is used for first speed reduction to eliminate noise. Motor and all working parts fully enclosed. Planetary designed for quick removal. Sealed construction of gear case prevents oil leakage and cup shape of planetary prevents any leakage into mixing bowl. Beaters have simple, positive locks and cupped tops. Several special types of beaters available. Bulletin 4140 available.

REYNOLDS ELECTRIC CO., Dept. EP, 2650 West Congress St., Chicago, Ill.

When inquiring specify EP2231... see information request blank, pgs. 16-17



Steel Treating Furnace Used with Blow Torch

Uses—General utility furnace operates with the flame of any make or size of blow torch. For use in shop work, laboratories and experimental departments where a larger, expensive furnace is not warranted.

Features—Inexpensive unit, operates with any size blow torch, can be easily raised or lowered so that flame opening will be in line with blow torch burner, regardless of torch height. Top of furnace carries pan of special heat resisting iron which can be filled with sand and heated for drawing temper of small tools. When pan is removed, there is top grating shaped to fit lead or babbit ladle if desired. Door opens level with inset bottom of furnace enabling user to pull out part to be heated on open door for inspection. Work to be partly heated can be placed on this door while it is open.

Description—Furnace is lined with 3/4" thick fire brick and has heavy gauge, blue steel shell. Legs and door latch are chrome plated. Unit is small and compact.

NATIONAL SAFETY DEVICE CO., Dept. EP, 836 W. Hubbard St., Chicago, Ill.

When inquiring specify EP2232... see information request blank, pgs. 16-17



To secure EQUIPMENT PREVIEW for your key men, turn to 'request slip'... page 16 and 17.

NEW STRENGTH and FORMABILITY in Lightweight Flexible Metal Tubing

REX-FLEX STAINLESS STEEL FLEXIBLE TUBING



Bendable in multiple planes. Light weight. Heat and Corrosion resistant qualities. High Fatigue Value. Absolutely tight for liquids and gases. Sizes (I.D.) 3/8" to 5". Pressures to 835 p.s.i.

Available in 5 types of straight wall and corrugated tubing

Rex-Flex is manufactured in 18-8 (Austenitic) and Stabilized Stainless Steels. Also Inconel and other alloys. Data and engineering recommendations on special applications on request.

CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS

When inquiring specify EP2233... see information request blank, pgs. 16-17

DUST ALWAYS COSTS MONEY DRACCO DUST CONTROL ALWAYS SAVES MONEY

There are two points regarding Dust that are important to all Chemical Plants. (1) A small amount of Dust is harmful because even in small quantities Dust is very destructive in many ways. (2) DRACCO Dust Control IS NOT expensive! In many installations the investment is small. Dust created from one machine or operation may be controlled for as little as \$195.00. Remember—DRACCO Dust Control ALWAYS saves money. It will pay to investigate.



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DRACCO CORPORATION
Successors to The Dust Recovering & Conveying Co.

4080 East 110th Street, Cleveland, Ohio New York Office: 130 West 43 Street

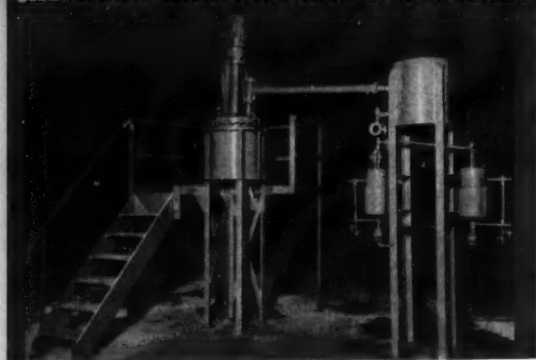
PNFUMATIC CONVEYORS • DUST COLLECTOR

When inquiring specify EP2234... see information request blank, pgs. 16-17

Write
for
Bulletin
No.
302

BLAW-KNOX

EQUIPMENT FOR CHEMICAL AND PROCESS INDUSTRIES



GUIDE MILLIONS IN INVESTMENT WITH BLAW-KNOX PILOT PLANTS

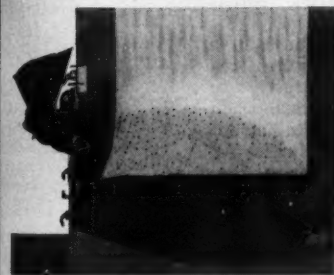
Blaw-Knox is an authority in the design and manufacture of miniature plants for guiding processes as well as the design and fabrication of plants and equipment for commercial production.

BLAW-KNOX DIVISION OF BLAW-KNOX CO.
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BLAW-KNOX PROCESS EQUIPMENT INCLUDES: Inclined High Velocity Evaporators
Vertical High Velocity Evaporators... Forced Circulation Evaporators... Rotary
Dryers... Autoclaves... Vacuum Rotary Dryers... Extraction Apparatus... Distillation
Equipment... Hot Oil Circulation System... Vulcanizers... Absorbers... Impregnating
Equipment... Solvent Recovery System... Heat Exchangers... Condensers...
Mixing Equipment... Distilled Water Evaporators.

When inquiring specify EP2235... see information request blank, pgs. 16-17

Many Prominent Chemical Plants use Detroit Roto-Stoker



Stationary Grate
type. Fine fuel
burned in suspen-
sion, coarse on
grates.

SOME PROMINENT USERS

E. I. duPont de Nemours
Armour Fertilizer
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Corp.

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REDUCE STEAM COSTS

Successfully handles rapidly fluctuating loads, burning wide range of coals, and coal with refuse. One of seven types of Detroit Stokers (underfeed and overfeed) for requirements ranging from small heating to large power plants. Save coal—save labor.

Write for Catalog No. 839 — Now

DETROIT STOKER COMPANY

General Motors Bldg., Detroit, Mich. Works at Monroe, Mich.

When inquiring specify EP2236... see information request blank, pgs. 16-17

Unit Dust Collector

Light Weight, Portable Unit With Air
Filtering Cloth Bags

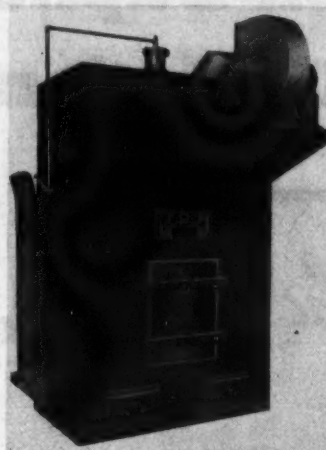
Uses — For relieving pressure in grinding mills and screening operations; for collecting dust from grinding and buffing wheels.

Features — Portable unit makes them suitable for easy changing from one point to another without tearing down or disturbing filtering unit. Machines have easy access to both cloth filters and dust hopper. Standard pneumatic shakers are used on these units the same as on larger units of this manufacturer.

Description—Units are made in various sizes to meet individual requirements. For general service, this machine is equipped with 6" diameter bags 4'6" long. Cloth bags are made of standard sateen cloth for filtering all of fine microns of dust. Standard equipment includes a fully welded airtight case, with inspection doors; cloth filtering tubes, pneumatic and electrically driven shaker with a fan for producing the necessary suction at the hoods.

NORTHERN BLOWER CO., Dept. EP, 6407 Barberton Ave., Cleveland, Ohio.

When inquiring specify EP2237... see information request blank, pgs. 16-17



Center-Fired Furnace

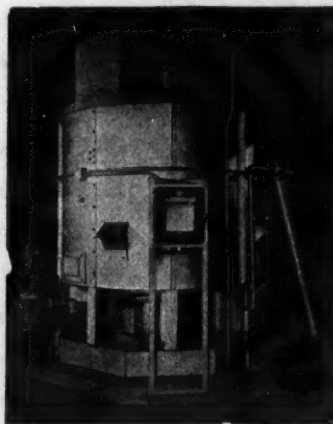
Rotary Type, Furnace Is Free From Cold Spots

Uses — For forging and heat treating.

Features — Center-firing principle provides a furnace free from cold spots, even at furnace door where cold spot usually exists. Single burner feature assures close, uniform control over furnace atmosphere. Positive pressure within furnace maintained by automatic stack damper.

Operation — Single burner for center firing, located at bottom of hearth, fires up through long combustion cone of special design. This cone insures that products of combustion come into equilibrium with themselves, prior to contact with the steel, thereby minimizing scale and decarburization. **Description**—Furnaces are heavily insulated throughout and are supported by rugged steel structures. They are made in hearth diameters from 4 to 9 feet, operating on either oil or gas, fired at temperatures from 1400 to 2500 deg. F. Rotary table is gear driven from variable speed transmission. Unit is equipped with sand seal having filling chambers for maintaining sand seal depth. Special door with air curtain protects operator from heat.

MAHR MFG. CO., Dept. EP, Minneapolis, Minn.



When inquiring specify EP2238... see information request blank, pgs. 16-17

A NEW Smaller and Lighter Weight Roller Chain

0.315 in. (8mm) Pitch



Actual Size of New Chain

SPECIFICATIONS

Pitch, 0.315 in. (8mm)	Pin Diameter, 0.0905 in.
Roller Diameter, 0.197 in.	Weight Per Foot, 1.75 oz.
Inside Width, 0.125 in.	Tensile Strength, 1100 lbs.

Weighing only 1 3/4 ounces per foot, 0.459 ounces per link — this sturdy little chain will transmit power quietly and smoothly, at still higher speeds than the larger sizes of standard Diamond Roller Chains, — 3/8" to 2 1/2" pitch inclusive — with the same high efficiency and the same sure, non-slip, non-creep advantages.

Fifty years of specializing in the manufacture of one product — Diamond Roller Chain Drives — have made it possible to build the same quality and endurance into this extremely small chain that are characteristic of the larger sizes. Total length tolerance in one foot of this chain is plus .0156 minus .000".

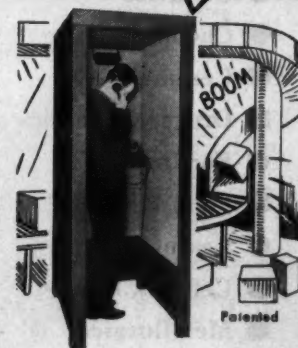
A free sample of this new Roller Chain (Model No. 88) will be sent to those who may be interested in its possibilities... **DIAMOND CHAIN & MFG. CO., 411 Kentucky Avenue, Indianapolis, Indiana.**

When inquiring specify EP2239... see information request blank, pgs. 16-17

I Hear You Distinctly in this Acousti-Booth

● It is so easy to hear, even in the noisiest shop, when your factory telephone is used in a Burgess Acousti-Booth. The acoustic lining soaks up noise and creates a remarkable "zone of quiet" within the booth. You can always hear distinctly no matter how close you are to noisy machinery.

Hundreds of these doorless booths are in daily use from coast to coast. We shall be glad to send you an illustrated catalog showing various Burgess models and names of satisfied users. Just mail the coupon.



Mail Coupon for Free Booklet

Please send illustrated catalog describing the Burgess Doorless Acousti-Booth and how it works.

Name.....

Firm Name.....

Street-City.....

Burgess Battery Company, Dept. EP, 500 W. Huron St., Chicago

BURGESS ACOUSTI-BOOTH
Manufactured under Burgess Patents

When inquiring specify EP2240... see information request blank, pgs. 16-17

Over 50,000 Non-Duplicated "Process" Circulation---



**Over 25,000
C.C.A. Circulation
in these Chemical
Process Lines**

- Brewers, Distillers
 - Cellulose
 - Chemicals
 - Ceramics
 - Drugs, Cosmetics
 - Fertilizers
 - Food Products
 - Leather
 - Cement, Lime
 - Metallurgical
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Double Ribbon Mixer Two Metal Ribbons Create Positive, Double Folding Action

Uses — For mixing of materials ranging from dry powders to heavy, viscous pastes.

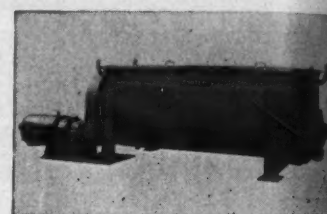
Features — Motor is mounted on same base as machine to eliminate danger of disalignment. Machine has anti-friction bearings with special end seals to keep materials being mixed from the shaft. All gears and other working parts are totally-enclosed.

Operation — Two metal ribbons, welded spirally to inner surface of mixing cylinder, create a positive double folding action of materials being mixed. Spirals are so placed that the mix is worked toward the discharge end of cylinder, thus providing easy removal of mix. Mixer cylinder itself lies within a baffled jacket, for either heating or cooling by means of hot or cold water.

Description — Machine illustrated is of 60 cu. ft. capacity, equipped with 15 H.P., 440 volt, explosion-proof motor. Units are available in any capacity, from laboratory to large production sizes, and fitted with any type motor desired.

H. K. PORTER CO., Dept. EP, 4935 Harrison St., Pittsburgh, Pa.

When inquiring specify EP2241... see information request blank, pgs. 16-17



Totally-Enclosed Vibrating Conveyor Rubber-Bushed Shackles Give Smoother & More Uniform Action

Uses — Conveyors, of metals of various types, used for material handling in foundries, abrasive plants, sugar refineries, cereal mills, salt works, etc.

Features — Driving mechanism is self-balancing and applies reciprocating motion directly to conveyor pan, thus transmission of vibration to surrounding structures is entirely eliminated. Horsepower requirements are small. Rubber-bushed shackles, requiring no lubrication, connect the supporting springs to pan, thus providing smoother and more uniform action and making possible higher conveying speeds.

Description — Units are designed for minimum headroom. Flanges are provided for flexible boots on intake and discharge openings for convenient, dustproof connection to hoppers and chutes. Conveyors are available in standard and special lengths to 50 ft. or more, and in widths up to four feet. For long distances, units can be installed in series.

AJAX FLEXIBLE COUPLING CO., Shaker Div., Dept. EP, 201 English St., Westfield, N. Y.

When inquiring specify EP2242... see information request blank, pgs. 16-17



Control Instruments for Ovens, Kilns, Etc.

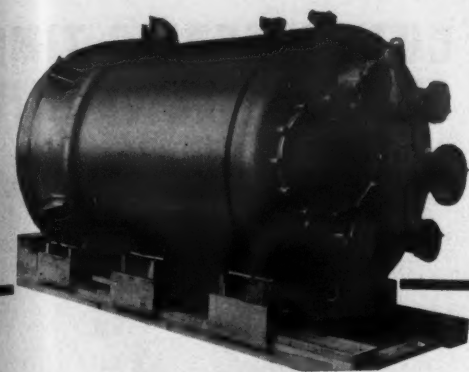
Complete line of thermometer and pyrometer controllers for gas, electric and oil-fired industrial furnaces, kilns and ovens are shown in this revised bulletin. Included is information regarding various air- and electrically-operated controllers available, as well as automatic valves, thermometer bulbs, thermocouples, etc. Copy of Bulletin 548 may be obtained.

BRISTOL CO., Dept. EP, Waterbury, Conn.

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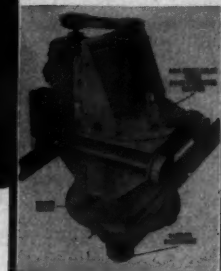


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Cyclone DUST COLLECTORS
AND Wet DUST DISPOSAL UNIT**

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The ACID-HANDLING PUMP
with exclusive features
resulting in low-cost pumping

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shows 2" pump,
coupling con-
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(Continued from first page)

War Orders? Caution . .

pansion of plant permitting them to manufacture shells while they continued to make milk cans would have met the government needs and also enabled them to conserve their business.

The British slogan during the World War "Business As Usual" had much sound sense back of it. The economic structure must be preserved even while waging war, or the objectives to be accomplished by waging the war will, in the main, be lost.

H. M. McCormack

Technical Advisory Editor.

Chemical Flaking Drum

Glass Observation Panels Permit View
of Knife Action

Uses—For converting certain liquid chemicals into flake form.

Operation—Equipment shown in illustration (with cover removed) chills the liquid product on a highly polished stainless steel drum and scrapes off the flakes with an adjustable knife. Drum rotates in a pan containing the liquid material to be flaked; coating is formed on cold stainless roll. Inside the freeze roll is a cooling solution, either water or brine, which is circulated through the interior, thereby cooling contact surface. This cooling solution enters and is discharged through the end trunnions.



Description—Unit is motor driven through a large gear and motor reducer. Cylindrical contact surface is highly polished to reduce adherence of material. Adjustable knife is controlled by hand wheel. Glass panels permit observation of knife action during operation.

BLAW-KNOX CO., Dept. EP, Pittsburgh, Pa.

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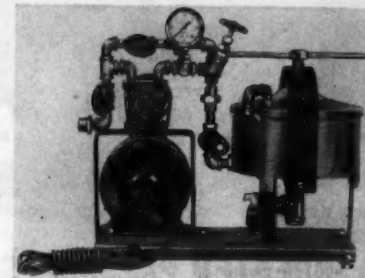
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- ☐ Vice President
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- ☐ Chief Chemist
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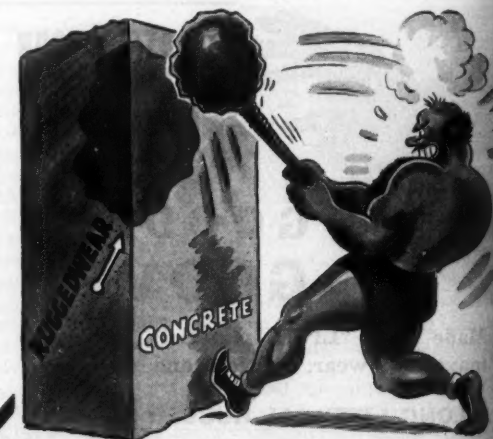
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